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ABSTRACT

This collection of papers examines how to gain more from Title I's goal of improving educational opportunity for poor children, offering evidence about educational gains and underscoring the civil rights implications of this legislation. In preparing for the 1999 reauthorization of Title I, the Civil Rights Project at Harvard University commissioned research to examine this federal program. Papers include: "Strengthening Title I: Designing a Policy Based on Evidence" (Gary Orfleid); "Beyond Compensation: Rethinking Title I Based on Research" (Elizabeth H. DeBray); "Title I: From Funding Mechanism to Educational Program" (Gary Natriello and Edward L. McDill); "Making Title I More Effective: Lessons from Recent Research" (David Grissmer and Ann Flanagan); "Instruction, Poverty, and Performance" (Heather C. Hill, David K. Cohen, and Susan L. Moffitt); "Teacher Roles and Student Achievement in High- Poverty Schools: Implications for Title I Schoolwide Improvement" (Jerome V. D'Agostino); "How Title I Can Become the Engine of Reform in America's Schools" (Robert E. Slavin); "Older Students Also Need Major Federal Compensatory Education Resources" (James M. McPartland and Will J. Jordan); "Necessary District Support for Comprehensive School Reform" (Susan Bodilly and Mark Berends); "Title I and State Education Policy: High Standards for All Students?" (Tammi J. Chun and Margaret E. Goertz); "Concentration of Poverty and the Ongoing Need for Title I" (Stephen J. Schellenberg); "Selection and Evaluation of Locally Developed Versus Externally Developed Schoolwide Programs" (Steven M. Ross, Marty Alberg, and John Nunnery); "Overcoming the Cognitive Wall: Accelerating the Learning of Title I Students after Third Grade" (Stanley Pogrow); and "The Need for Developing Procedural Accountability in Title I Schoolwide Programs" (Margaret C. Wang, Kenneth K. Wong, and Jeong-Ran Kim). (Papers contain references.) (SM)

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HARD WORK FOR GOOD SCHOOLS

Facts Not Fads in Title I Reform

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Hard Work for Good Schools:
Facts Not Fads in Title I Reform

Gary Orfield and Elizabeth H. DeBray, Editors

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HARD WORK FOR GOOD SCHOOLS: FACTS NOT FADS IN TITLE I REFORM

The Civil Rights Project, Harvard University

EXECUTIVE SUMMARY

Introduction

Improving educational opportunity for millions of poor children has been the basic goal of the Title I program for a third of a century. Critics say that the effort is a failure and supporters say that there were major gains. This volume presents research by many of the nation's top experts on how to gain more from the investment. The studies raise a set of issues that have been ignored in the current debate over Title I, and call into question some of the basic assumptions underlying the education reform efforts of the last two decades. This volume contributes real evidence about educational gains and underscores the civil rights implications in this legislation. Better results from Title I are possible but they will not happen without intelligent focus on the evidence of what actually works and without vigorous administration of the law.

The research in this volume is based on the premise that Title I—the largest federal program for elementary and secondary education—is an essential provider of equal opportunity to our nation's poor children. In preparation for the 1999 reauthorization of Title I, The Civil Rights Project at Harvard University believed that this federal program needed to be reassessed by researchers, policymakers, and educators. In commissioning new research and in convening a conference and two legislative briefings, it was our hope to contribute sound research to the current policy debates surrounding education and, most importantly, to see what we can learn about how Title I can better serve children in this country.

Key Findings

- State accountability systems that do not look at performance of minority and low-income students do not produce the appropriate Title I accountability. Although states report on the performance of groups of students, they are not held accountable for ensuring that these groups, or individual students, meet the same high standards. (Ch. 10)
- Decentralization for teacher development of curriculum in poor schools may actually produce losses in student achievement over the longer term; these schools are overwhelmed and in need of greater social service supports. (Ch. 6)
- Class size reduction in the early grades is an intervention that is positively associated with growth in poor students' test scores. (Ch. 4)
- The historic focus of Title I on an early intervention model has failed to produce lasting results, and we need a program for adolescents and high schools. (Ch. 8)

  > "The current staggering loss of well-educated human talent due to dropouts and low academic achievement by high school students from poverty backgrounds will not be halted until extra help is provided at each stage of the human development process from early childhood through young adulthood."—James McPartland and Will Jordan

- The effects of concentrated poverty both in schools and neighborhoods is a central educational problem that lowers achievement. Title I has not addressed this problem. (Ch.11)

  > "Children in impoverished neighborhoods are hurting academically, not just from their own poverty, but from the poverty that surrounds them. The negative effects of concentrated poverty are not simply restricted to poor children; those students receiving no lunch subsidy are also achieving much less if they live in impoverished neighborhoods."—Stephen Schellenberg

- Although student socio-economic status is still the foremost predictor of achievement, reformed instructional practices do matter if consistently applied. (Ch. 5)
- Curriculum is a vital part of opportunity. Enriching the curriculum is a difficult and long-term process, one that normally offers less to schools with high concentrations of poverty. (Ch. 5)
- Externally-developed and validated schoolwide programs usually yield better results than locally developed programs. (Ch. 12)

Policy Recommendations

- Decentralized block grants to schools do little to ensure stronger instructional policies on the scale that is needed. The federal government has already moved too far in that direction. (Ch. 1, 2)
- There needs to be a more explicit connection between the federal level and the district. The district is the institution that can monitor schools'

The work in this volume was made possible by the support of the Spencer Foundation, Charles Stewart Mott Foundation, and the John D. and Catherine T. MacArthur Foundation.

needs assessment and implementation of schoolwide projects. (Ch. 2, 14)

- Districts should be required to oversee adoption and implementation of the design of school-wide projects. (Ch. 9)

  "It is clear that if the federal government wants school-wide models to be effective, or even implemented, it will have to address the role of the district. The federal government should promote, encourage and support the free flow of information and funding within the system to develop more informed consumers at the district and school-levels by disseminating information [about], program designs, realistic planning timelines for developing and adopting school-wide programs, realistic expectation, costs of design adoption and the investment levels needed in professional development, and regulatory and other barriers to implementation and the need for district supports."—Susan Bodilly and Mark Berends

- Programs supported by Title I should either be proven effective or have systematic independent assessment attached to them. (Ch. 7)

  "A key requirement for making this policy effective would be to invest substantial resources in the development, evaluation, and dissemination of programs capable of increasing the achievement of all children in Title I schools."—Robert Slavin

- Districts should conduct a needs assessment of the various levels of staffing support needed for teachers in high-poverty schools. Addressing the overall organizational needs of a school will enable it to better serve its students. (Ch. 6)

- A state's long-term commitment to standards, assessment, and content-based professional learning opportunities will provide the greatest assurance of increasing disadvantaged students' opportunity to learn. (Ch. 5)

- In addition to schoolwide programs, individual systematic interventions should be examined in grades 4-8. (Ch. 13)

- Ineffective programs should be discontinued. (Ch. 9)

- Policies to lessen school poverty concentrations should be encouraged.

- Regardless of which type of schoolwide program is chosen, systematic formative and summative evaluation is essential. (Ch. 12)

- More fundamental research is essential for expanding the knowledge base for Title I.

Volume Chapters

1. Strengthening Title I: Designing a Policy Based on Evidence, *Gary Orfield, The Civil Rights Project, Harvard University*
2. Beyond Compensation: Rethinking Title I Based on Research, *Elizabeth H. DeBray, Harvard Graduate School of Education*
3. Title I: From Funding Mechanism to Educational Program, *Gary Natriello, Teachers College, Columbia University and Edward L. McDill, Johns Hopkins University*
4. Making Title I More Effective: Lessons from Recent Research, *David Grissmer and Ann Flanagan, RAND*
5. Instruction, Poverty, and Performance, *Heather C. Hill, David K. Cohen & Susan L. Moffitt, University of Michigan*
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8. Older Students Also Need Major Federal Compensatory Education Resources, *James M. McPartland and Will J. Jordan, Johns Hopkins University*
9. Necessary District Support for Comprehensive School Reform, *Susan Bodilly and Mark Berends, RAND*
10. Title I and State Education Policy: High Standards for All Students? Tammi J. Chun, RAND and Margaret E. Goertz, University of Pennsylvania
11. Concentration of Poverty and the Ongoing Need for Title I, *Stephen J. Schellenberg, Saint Paul (MN) Public Schools*
12. Selection and Evaluation of Locally Developed Versus Externally Developed Schoolwide Programs, *Steven M. Ross, Marty Alberg, University of Memphis and John Nunnery, Memphis (TN) City Schools*
13. Overcoming the Cognitive Wall: Accelerating the Learning of Title I Students After Third Grade, *Stanley Pogrow, University of Arizona*
14. The Need for Developing Procedural Accountability in Title I Schoolwide Programs, *Margaret C. Wang, Kenneth K. Wong, and Jeong-Ran Kim, Temple University*

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STRENGTHENING TITLE I: DESIGNING A POLICY BASED ON EVIDENCE

GARY ORFIELD
Harvard University

Come into the teacher's room in the Jefferson school in an old neighborhood in Centropolis, the state's largest city. The room is small, equipped with only an old coffee pot and a table to sit around, and lacks functional work spaces. It is the end of a long school day. One of the teachers mentions that Congress is working on another federal school bill and there is a big fight between the President and some of the congressional leaders about what provisions to include.

Gwen Moreno, who was an honors graduate in English from the state university and has been teaching at Jefferson for 18 years, is not very interested. She has heard a lot of promises from politicians to improve conditions, and few have materialized over the years.

George Jackson, the young history teacher, spends hours watching C-Span: "Listen," he says, "the President wants more tests and higher standards and I think a lot of folks in the Congress want to turn it all over to the state governments."

"I wish I could have some of those big shots teach my first period class," says Gwen. "What would they do with kids who can barely read, kids that have to cross dangerous gang boundaries to get to school, kids who are going to be out of here next month because their families can't pay the rent, kids who just got here from China and Mexico and can't speak English. I don't think that the old retired suburban superintendents down at the state ed department would even dare to get out of their cars in this neighborhood."

At this point the math teacher, Percy Eaton, pipes up: "Yes, and how about those state tests? They change the scores and the content, can't decide whether or not we're in the computer or even the calculator age yet, and put more and more pressure on us without giving us the tutors and help we need to give these kids a chance. What good does it do to tell us that 73% of our kids are below the cutoff score? Can they really think that paying a lot of money to send kids who hated ninth grade back through the same classes next year, humiliated to be in with a bunch of younger kids, is going to do a lot of good? I think that they're just trying to undermine public schools."

"Well," says George, "you've got to admit that we've got a big problem and that kids don't have a fair chance. Maybe we could fix it so the schools with bad scores would have a real chance for a new start with methods that work, not some new fad. Congress has got to do something."

"Just look at this dump of a building," Percy sighed, "It's falling apart, we really haven't had money for the library for a decade, the science materials are prehistoric and the electric system was obsolete before the television era. Our roof might not make it to the 21st century. What would you guys do if you were in Congress?"

Sue Nitson, the Teach for America honors graduate in Biology from Cornell, was taking all this in. "It sure would help," she said quietly, "if my classes were small enough so that I could have the time to spend with smart students who just don't have some of the skills they need and are giving up. I wonder," she mused, "if any of the people making policy have ever tried to teach 150 students a day in an inner city school."

Didi, the tough-talking gym teacher from Mississippi, jumped in with the most pessimistic view: "They'll spend billions to lock up our kids in jail but we can't get anything for our dropout program. They only want to help the little kids. Nobody cares about them when they become teenagers."

"They're trying their best," said Jason, the elderly history teacher who was wearing his American flag tie: "This is really hard to figure out, even for us right in the middle of it."

"Oh, they don't care," says Gwen. "They are just a bunch of lawyers and politicians taking polls, mouthing sound bites and trying to look good for the next election."

"I think they really want to help us," says George, describing the sincerity of some of the people he has been watching on C-Span. "I hope

they do. We need serious help."

This book is based on the hope that George is right and policy makers want to find policies that actually work. Education is a potent political issue right now and there is a temptation to support whatever is popular. But there are very serious problems that must be solved. This book is intended to deepen what we think has been too limited a debate. We hope, through new research, to provide evidence that those who care deeply about what is going on in thousands of schools like Jefferson can use to help make things better.

After commissioning researchers across the country to report on the newest evidence available, we are convinced that real progress is possible and that there are known paths toward actual gains, but that we need much stronger leadership if we are to get there. We see slogans taking the place of analysis, claims of huge successes that really don't appear in the data, and very little discussion of the best available research.

As we enter a heavily political season, a number of things militate against legislation that really helps high poverty schools. Some of the popular ideas under consideration by the Clinton Administration and Congress may actually make things worse. Many of the reforms of the past two decades had little or no basis in research about education and do not work. Too many leaders assume that they know the answers, decide what they want to do, then find an "expert", often a self-appointed member of an advocacy group or ideological "think tank" who has never operated or studied a Title I program, to support their claims. The debate often sounds as if it is based on clear evidence, when in reality it is founded on slogans. People often treat education policy as if it is simply a matter of "common sense", but there are many deep barriers to equal education in high poverty schools that have not yielded to decades of common sense reforms. Successful programs require skillfully targeted and sustained interventions.

A number of activists, lobbyists, and staffers working on the bill told us that the decisions on Title I would be purely political and that new information would be useless. We think that this is much too cynical a view and decided to commission researchers to contribute to what has been an intellectually impoverished debate. In putting together this book we wrote to all the researchers we heard of who were working on Title I and asked them and other scholars to tell us about data they had and about any other researchers with data that could inform the Title I debate. Scholars then submitted research proposals and we commissioned studies from the best proposals. We were not committed to any answer when we started this process and did not apply ideological tests to the studies. We shared the deep disappointment with the results of Title I programs to date and thought that the best way to proceed would be to ask for new evidence.

The book reports new research. This chapter introduces the studies but also attempts to clear the ground by suggesting that some of the key ideas being advocated as solutions for Title I problems are based on political fads, not solid evidence. Particularly striking in this regard is the misuse of testing in proposals from the Administration and many states. High stakes testing–using test numbers alone to make fateful decisions for students–is in direct violation of the ethical standards of the testing profession and is likely to increase the dropout rate of minority students according to the recent National Research Council study prepared for Congress. Considerable research indicates that ending "social promotions" and forcing students to repeat grades has increased dropouts without significantly raising achievement. While there is controversy over this issue, there is certainly no reliable basis for recommending large scale flunking policies.

The second panacea that I dispute in this chapter is the idea of increasing state and local discretion, so central in the debate on the Ed-Flex legislation. The reality is that local and state educators have long been the dominant force in Title I, that they have not done a very good job, and the federal authority now being exercised is below the minimum needed to enforce basic accountability. Many years of state and locally run federally-funded programs show that such programs tend to either disappear without a trace into local budgets (the federal contribution to total school costs is only about 6%) or fund unimaginative programs which have little accountability or evidence of success. Certain functions are logically best done at the national level, including research, statistics, evaluation of major new approaches, enforcement of federal civil rights requirements, and communicating new ideas broadly to the nation. Even administrations strongly in favor of decentralization have found this to be true.

The federal government is a minor partner in education but has a uniquely important role to play, keeping a focus on the fate of poor and minority children. Federal officials are also able to broaden the agenda of professional and community discussion because they have the bully pulpit and they enforce national requirements for fair access to educational

opportunities. If the small federal financial contribution were to be simply spread out thinly across the country, it is likely to disappear without the slightest idea of what, if any, difference it made. This happened when the last block grant became law. Anyone who thinks that discretionary money allocated to local districts without strings is going to be focused effectively in the long run on making a difference for low income schools has not paid serious attention to the way these districts operate. Close observations reveal that there is seldom any serious accountability for these programs, that they receive uncritical assessments from the majority of districts, and that there is a constant struggle for resources between more affluent and powerless communities within school districts and legislatures.

Title I reform, according to the studies in this book, requires focused, informed, and persistent effort. It requires very hard work to foster and keep good schools in poor communities. This book is intended to help focus that effort on programs that can make a difference. This chapter reviews where we have been and reports disturbing evidence of the end of progress in cutting the racial gap in achievement and high school and college completion and the failure of the Goals 2000 initiative. It sets the stage for Elizabeth DeBray's overview of the research findings in chapter 2.

Title I and Equal Opportunity

Though our research center is concerned with issues of racial justice, we think that focusing on Title I is perfectly consistent with our mission. Education is a basic civil right in contemporary America. Nothing more powerfully determines the chances for a person's life. Educational opportunity for most blacks, Latinos and American Indians has always been unequal. Blacks and Latinos are more segregated than they were two decades ago and the racial segregation is accompanied by a kind of concentrated poverty few white students ever experience, except in some rural areas. Desegregation efforts are being abandoned and ghettos and barrios are expanding. Traditional civil rights protections, including affirmative college admissions programs, are being terminated. This introductory chapter reviews the progress made in narrowing racial gaps in achievement and college admissions during the 1960s and 1970s, and reports disturbing evidence of the end of this progress during the past fifteen years. In this situation it is extraordinarily important that the largest program intended to help the schools of poor and minority kids actually works.

Schools serving poor and minority children should, at a minimum, prepare students for post-secondary education and decent jobs. But this modest standard is not being met in most urban districts, which enroll fewer and fewer middle class students and are unable to halt the ever-widening concentration of impoverished schools with low performance levels and high dropout rates. Teachers are expected to deal with the overwhelming problems affecting children who come from dysfunctional and abusive families, have parents with no stable income, have immigrated from other countries, are developmentally handicapped, are strongly impacted by negative peer group influences, and exhibit a host of other serious problems. They often must do so in decrepit facilities without adequate financial or educational resources. Ironically, as politicians and the general public clamor for higher academic standards and more severe consequences for those who fail to meet these standards, a level playing field for all students–an equal opportunity to learn–is even farther away from reality.

False Assumptions Behind Current Educational Reform Proposals

The debate swirling around the future of Title I must be viewed within the context of the current national school reform movement. Unfortunately, many of the principal reforms of the last two decades that now have powerful political backing show little evidence of educational gains. Their weaknesses are the basic reason why the goals for American schools in 2000, agreed to in an 1989 education summit meeting by President Bush, then Governor Bill Clinton and the nation's other governors, are being quietly abandoned. While states have been actively implementing the various strategies that leaders embraced, they are not only falling far short of the goals, but are actually losing ground on several fronts.

TABLE 1: GOALS 2000 RESULTS

Goal	1990-1996 Trend
Dramatically increase graduation rate	Decline in graduation rate for blacks and whites. 1.0% increase for Latinos (If GEDs included, no overall change)
End disparity in graduation by race	Disparity up 3.0%, to 9%, for blacks Disparity down 1.0%, to 30% of Latinos
End disparities in attaining standard for reading	Disparities were unchanged or increased for blacks , Latinos and American Indians at all tested levels
End disparities in attaining standard for math	Disparities were unchanged or increased for blacks, Latinos, and American Indians at all levels

The *Goals* report also shows that the rate of college attendance for high school graduates fell by one percent for blacks and rose by 3% for whites from 1990 to 1995.[1] Between 1992 and 1996 the college completion gap between white and black high school graduates increased by a reported 3% and the gap between whites and Latinos increased 5%, although these increases were not large enough to be considered statistically significant.[2]

Most of the current school reform ideas favored by policy makers today were initially proposed 15 years ago by President Reagan's *A Nation at Risk* report and in other administration policies of that era. In my opinion, they include a number of false assumptions that have harmed educational progress since. These include:

- turning programs to educate poor children over to the states would make them better
- local schools and districts have workable plans to effectively educate students in impoverished schools
- all of the existing state standards and high stakes tests would bring improvements for these children
- ending "social promotion" would help, not harm, Title I children
- returning to segregated neighborhood schools would improve educational performance
- effective reform of high poverty schools can be achieved though commands and sanctions from state governments

It is important to note that most of the reforms of the past 15 years were proposed by politicians, not prominent educators, without any review or consideration of current data or consultation with leading researchers. Rather, the policy makers have a predetermined idea of what they want to propose (often poll-driven) and then seek out an "expert" who can confirm the idea's legitimacy, frequently from a politically-oriented think tank in Washington. Many of these "experts" have never worked in or studied Title I schools.

We discovered that many of the best researchers in the country who are conducting important studies on school reform and learning in low income schools have never been contacted by any policy makers.

When these policies inevitably fail, politicians denounce teachers, teacher's organizations, bureaucracies, education schools, and even the "public school monopoly" instead of criticizing their own erroneous assumptions. They then proceed to adopt another set of reforms that also lack any serious research foundation.

I have often found, for example, that states enact new curriculum requirements without even checking to see whether low income schools have the teachers, facilities, or equipment to implement them. Other states adopt sudden cuts in class size without taking into account the fact that many Title I schools lack both sufficient classrooms and trained teachers needed to meet the new size requirements. Thoughtful, consistent implementation of reforms sensitive to the realities of Title I schools is rare.

While education is at the top of the public's list of concerns, the debate is still largely about slogans and sound bites. My fear is that the limited success of Title I so far and the deeply polarized political conflicts in Washington will transform the debate over this vital education measure into an ideological tug-of-war between candidates. In the process, the interests of millions of children in Title I schools will be abandoned. In the worst case scenario, the program could turn into a disorganized potpourri of popular fads and we will lose our window of opportunity to implement necessary but difficult long-term change.

Historical Context and Current Realities

Title I was enacted in 1965 to help concentrated poverty schools. It was created during the height of the civil rights movement, when the federal government undertook a major effort to address the nation's history of racial discrimination and to help its impoverished underclass. Many educational programs adopted during that period--ranging from Head Start, to the Upward Bound college access program, to the first major federal scholarship program--were designed to overcome barriers limiting educational opportunities of poor children. New civil rights policies produced a dramatic increase in access of minority students to competitive, integrated schools and colleges. These policies constituted the educational component of a wider legislative "War On Poverty", that sought to increase decent housing, offer more job training programs and public jobs in the cities, and that brought about the most rapid increase of civil rights protections in U.S. history.

These new programs help explain why the 1960s and 1970s marked the only period in the last half century when poverty declined sharply and when racial gaps in educational achievement were narrowed most decisively. A growing number of black students finished high school and entered college and their test scores rose substantially, particularly in the South. In their chapter, David Grissmer and Ann Flanagan note that the largest education gains recorded in U.S. national assessments came for cohorts of black students entering school between the late 1960s and the late 1970s, particularly in the South. They postulate that these "could reflect social and legal changes aimed at equalizing educational opportunity, additional educational resources, and the implementation of civil rights legislation creating new job opportunities for academically successful blacks...." By the late 1970s, the percent of black and Latino high school graduates who entered college was nearly equal to those of whites.

TABLE 2: LONG TERM TRENDS IN BLACK HIGH SCHOOL COMPLETION (INCLUDING GED DEGREES) FOR YOUNG ADULTS, AGES 25-29

1940	12.3%
1950	23.6%
1960	38.6%
1970	58.4%
1980	76.7%
1990	81.7%

TABLE 3: COLLEGE INITIAL ENROLLMENT RATES BY RACE AND ETHNICITY, 1978-1996

	White	Black	Latino
1978	49.9	45.8	49.2
1980	49.9	44.3	46.6
1986	57.6	39.6	46.3
1990	60.9	47.9	54.0
1996	64.0	52.8	51.5
Increase	14.1	7.0	2.3

Source: National Center for Education Statistics, *Digest of Educational Statistics 1997*: 17

However, these gains ended in the 1980s as college costs rose rapidly, coverage of scholarship programs was diminished, admissions requirements were made more rigorous, and civil rights policies were sharply curtailed following the Supreme Court's *Bakke* decision in 1978. The percentage of white students beginning college rose much faster than the percentage of black and Latino high school graduates, thus substantially widening the racial gap in college access (Table 3). There has always been a much more dramatic gap in the percentages completing four year degrees, and this gap has grown wider as well. In 1993, blacks were only 6.7%, and Latinos only 3.9% of students receiving Bachelor's degrees, far less than half their share of the nation's school age population.

These reversals have continued in the 1990s. The dropout rate is once again rising for black students. The racial gaps in test scores have stopped narrowing and some are widening. While minority students show some improvements from recent declines on tests in the new 1998 NAEP reading scores, the general trend remains disappointing. The positive news for the past two decades has taken place primarily in elementary schools but this progress has slowed or halted by high school. High school achievement, of course, is the critical factor in graduation, college matriculation, and success in life. It is deeply ironic that attention has remained so focused on the early grades for a quarter century in spite of strong evidence that lasting impacts of early interventions are usually limited or non-existent without subsequent interventions down the road. Policy makers have been repeating the mantra that early interventions will produce lasting educational fixes for a third of a century but the NAEP data shows no such trend. High schools have their own distinct and severe problems for poor kids which have never been seriously addressed.

The country is clearly failing to meet the early hopes of Title I. While the improvement of educational opportunity, and the resulting improvement in academic achievement for millions of poor children, has been the basic goal of the Title I program, for a third of a century, the Congressionally-mandated *Prospects* study reported no academic gains for the national sample of Title I students which it tracked. Critics are using the study to bolster their argument that Title I is a failure and should be replaced by a radically different approach. Supporters say that there were major gains, particularly for black students, in the early years of Title I and that proper implementation of the law could once again result in substantial gains. The studies in this book support the latter view.

POLITICS AND RESEARCH: RETHINKING TITLE I

Title I has been the largest federal program for impoverished public schools for more than a third of a century, surviving seven presidential administrations and vast ideological shifts. Today, however, it is facing its most serious threats from the White House and Congressional Republicans, with proposals for radical redirection.

In such a highly politicized environment, we were warned by some observers that it was futile to produce serious research which was likely to be dismissed by most politicians eager to enact their favorite cliché. However, we continue to believe that many Senators, Congressmen, and Administration officials take their commitment to improve education for poor children seriously. In any case, we feel strongly that it is impossible to implement effective policy on very difficult issues without first examining the implications of rigorously tested information.

We initiated this project because we discovered there was not enough evidence on the record to permit anyone to make a truly informed judgment about how to improve Title I. We found that much of the debate was based on vague impressions of programs in local districts or states that were working, connected to even vaguer claims that the reported success was caused by testing, flexible regulation, lower class sizes, a particular curriculum, higher teacher salaries, or any one of a host of favorite theories. We found a pyramid of anecdotes and suppositions in place of the kind of serious analysis that a national crisis deserves.

Title I is not an educational program. Title I does not prescribe any educational approach. It is a mechanism for targeting funds to benefit schools with high concentrations of low income students. The *Prospects* study commissioned by Congress does not examine whether such money could produce benefits but whether the schools receiving Title I funds produced any measurable academic gains. The report on the effect of existing programs in the early 1990s is less of an indictment of Title I than of the priorities and skills of the school district officials spending those dollars.

This book approaches Title I from a very

different perspective. Our project searched the country for researchers with current data who were prepared to address the central question now being asked about Title I–Why isn't this money producing larger gains? This is an urgent question not only for conservatives but for anyone concerned with improving the future prospects of low income children. Preserving Title I will be a true victory only if the money actually leads to an increase in educational achievement for poor students. "Winning" the legislative battle by funding a program that does not benefit its targeted population is losing the war.

We began by assuming that traditional uses of these funds have not resulted in adequate gains, and then sought out the strongest possible evidence of programs that do work in schools with concentrated poverty. We did not search out stories of unique successes or great leaders since any policy that relies on the replication of genius on a wide scale is doomed to fail. Rather, we sought to identify replicable methods that could be broadly applied by teachers in a diverse range of Title I schools.

We did not select authors who agreed with some preconceived policy. We asked researchers what kind of reliable data they had, not what they would conclude. As you will read, the authors discuss a number of issues rarely addressed in recent educational policy debates. Many of the conclusions which they draw challenge the preconceptions of traditional liberals and conservatives. Their findings forced us to question some of our own previous assumptions and to discard ideas we believed at the outset. Liberals supporting school level curriculum development, for example, may find disconcerting the conclusion that high poverty schools trying to implement this typically do not succeed. Rather, they derive greater benefits from tested approaches consistently applied and from outside help with the non-educational problems of poverty which afflict their schools. There is a general consensus among the authors that the nostrums and assumptions that have dominated educational policy since the early 1980s are, at best, inadequate and simplistic and, at worst, actively harmful to minority and poor children.

We do not intend for this research to serve as ammunition for legal or political defense of old programs. What we offer is the best evidence and best judgments of some of the nation's most talented researchers in this field. To our knowledge, no other independent research of this magnitude has been attempted before any of the previous re-authorizations of Title I.

Some of the needed elements for improvements recommended by our studies are already present in the 1994 amendments–if they were administered with more firmness. Congress also took an important step toward achieving real gains from Title I when it enacted the Obey-Porter legislation in 1997, which creates incentives for schools to adopt "proven strategies" for getting results. This was an excellent idea. Unfortunately, the list of 17 eligible "research-based" programs listed in the $145 million Comprehensive School Reform Demonstration Program went far beyond those that had produced solid evidence of effectiveness. Of those recognized as successful models in the legislation, a recent review of the research by American Institutes of Research (AIR), *An Educators' Guide to Schoolwide Reform*, concludes that only a small minority have produced reasonably solid evidence of effectiveness.[3] Many of those listed offer little or no documentation of success. If this approach is to succeed, politics should not dictate what programs make it to the list. This is a task that Congress could assign to the Department of Education and the National Research Council, which could well consider some of the issues examined in the AIR report. Without a serious and independent review of the evidence, the purpose of this legislation is defeated.

Appropriate educational leadership at the federal, state, and local levels could put many of the other changes recommended by authors in this book in place without major additional adjustments to the law. However, significant improvements to this law will be difficult to implement. If there were easy answers that could work quickly with moderate effort, the Title I billions would probably already be making a large difference. Instead there is a debilitating legacy of failure and denial in many districts. Many school systems have implemented wave after wave of programs announced as breakthroughs, but which turn out to be ineffectual fads. In any large urban school system there is an archeology of Title I programs and equipment; each begun with glossy plans and optimistic hopes only to be quietly shelved for the next "cure" which comes along two or three years later when the anticipated results did not emerge.

This situation is deeply frustrating both for educators and policy makers because it frequently results in a series of erratic changes, as each school pursues the latest hopes for big gains. Instead, we advocate for the focusing of resources on sustained, long-term growth and improvement through the

implementation and evaluation of credibly tested programs.

Moving Beyond the Limits of the Existing Debate

A good starting point, in thinking seriously about the future of Title I, would be to compare Title I schools to middle class schools. Any member of Congress who randomly visited schools in his district serving the highest and lowest percentage of students on free lunch on any given day would be depressed by the profound differences we tolerate in educational opportunity within this country. Particularly at the upper grades, courses with exactly the same name can have very different content and classroom climates. Perhaps a debate fueled by vivid images of real schools and people who work in them would be less inclined toward stereotypes and ungrounded theories.

Certainly, the first principle of the reauthorization of Title I should be a simple one–do no additional harm. The goal of providing better education for children in very difficult circumstances has proved to be so challenging that we must avoid adopting policy changes that have proved to be harmful in the past. Elements in both the proposals of the Clinton Administration and those of its critics could actually make things worse for Title I students. The proposed changes related to "social promotion" and to turning over more discretion without accountability to state and local officials, for example, have both been tried and failed in the past.

Faced with the discouraging evidence about the limits of direct Title I impacts and the loss of positive forward momentum, every involved party seems to have its own solution, even if there is no direct evidence to support its claim. School officials in large urban districts tend to ask for more resources. Conservatives tend to believe that state governments or charter schools or vouchers would work better. Union officials preach higher salaries for teachers and better training. Critics of teachers attack the schools of education and believe that teacher tests will upgrade the profession. Community groups call for greater parent and community involvement and test advocates clamor for more, better, and tougher exams. Traditionalists want to return to schools which emphasize moral values, phonics and the old math. Many teachers and administrators in high poverty schools want to end the chaos of flavor-of-the-month reforms and edicts, achieve some understanding of the crisis of poor communities, and receive consistent help with a very tough job. Most of the children and families affected by the decisions being made in the reauthorization just want access to some of the opportunities that middle class children routinely receive. They are neither organized nor significantly represented in the current debates. There is virtually no discussion about reducing the number of poor children and families or helping them escape isolated and declining neighborhoods and schools.

Unfortunately, almost by definition, those making policy lack direct experience as either a parent or a teacher in schools of the poor. In our society, which is profoundly segregated by race and poverty, reforms are usually theories coming from people from somewhere else imposed on other people without power. It is easier for political leaders to project their ideology on the schools they do not have any direct contact with, voting for reforms that appeal to their middle class constituency, than to undertake the complex and confusing task of untangling the evidence, recognizing inequities, and making hard judgments about long and difficult struggles. The experience of the last thirty years shows that reversing patterns of inequality in high poverty schools requires the same kind of skill, intensity and a sustained systemic plan that we devote to developing treatment for a very severe illness or to launching rockets into space. It is a rare and difficult accomplishment to significantly equalize educational outcomes primarily because children in high poverty schools face so many obstacles to academic achievement and their schools tend to lack adequate facilities, resources, skilled teachers, support and funding.

Those debating Title I's future often assume that affected schools are disconnected from the social and economic forces around them. They are not. Schools have students for only a small fraction of the time they spend with their families and peers within their communities. Students with perfect attendance still spend only 20 percent of their waking hours–approximately 1,080 hours a year–in school.

Generations of research indicates that it is not reasonable to expect that schools can solve all the profound problems that deep, persistent and concentrated poverty poses for children. Impoverished neighborhoods produce families without resources, without health care, without stable housing and without positive peer groups and mentors. The children may be hungry, their bodies and minds may not have developed correctly, they may be living in environments filled with violence and fear, their parents and neighboring adults have

probably had negative educational experiences, there may be no books or educational materials in their house and there may be no adults in their block to serve as successful role models. Their school may be ugly and in wretched physical condition. It may be staffed by teachers and administrators who are demoralized, poorly prepared, overwhelmed by the enormity of the problems presented by their students, burnt out, and hopeless. Their community probably has little political power to protect its interests.

A cursory look at any state's testing scores will quickly reveal that those schools where students perform the poorest are also schools where the poverty level is highest. And, it is hardly a coincidence that these are the schools where the *Prospects* study reports that Title I was least effective. "Students in low poverty schools generally score from 50 to 75% higher in reading and math than students in poor schools." The gaps in achievement between schools are huge and they tend to get larger as students become older. About one-third of the students in high poverty schools change schools each year, making it very difficult even for well-organized schools to make a lasting impact.[4]

Yet debates about Title I seldom note these realities. Policy makers are often surrounded by advocates with simple answers. Americans tend to become extremely optimistic about new ideas and very impatient about results. For instance, those who contend that unfettered local control, together with a state testing system, will produce gains for low income students are winning political and legislative battles but deluding themselves. I believe that the lesson that many in Congress and the Administration are drawing from "successes"–particularly in Texas–are off target both in their assumptions about the nature and extent of the success and its causes.

The following section discusses some of the most popular "solutions" to the problems posed by high poverty schools; "solutions" that are likely to be vigorously advocated in the upcoming debate. These include decentralization, high stakes testing, and charter and magnet school provisions. It also looks at the inherent problems that are posed when funds are predominantly focused on the early school years without following through into high school.

Decentralization: Will State and Local Control Solve the Problems?

Decentralization, hailed as a panacea in the recent Ed-Flex debate, is not a new idea. It was the dominant pattern in federal education programs for many years until the mid-1960s, and it was tried in a drastic way in 1981 without discernible benefits. Before Title I, virtually all federal education funds were decentralized and simply went into local school budgets (impacted areas dollars), or were administered collaboratively by state and local agencies. These programs produced little innovation, very rarely focused on any hard social or educational issues, and tended to simply be distributed through formulas.[5] Virtually no research or independent monitoring was carried out by most state and local authorities to find out whether or not programs were meeting their stated objectives. State legislative policy making was often dominated by interest group politics, with teacher's organizations and associations of program administrators playing very powerful roles in battles that focused on the distribution formula for state aid and the taxes needed to fund it.

All of the presidents elected in the past three decades have been strong advocates of decentralized and state leadership in education. The two Democratic Presidents—Carter and Clinton—were former governors strongly involved in state school reform issues. The present Secretary of Education is also a former governor who strongly advocates state leadership.

There are serious problems associated with decentralization. It is not only much harder to launch broad new national agendas without federal leadership, but states also tend to differ from the federal government in important ways. They usually have much weaker civil rights enforcement than the federal government, and many have almost no significant civil rights oversight of policy-making and administration of state programs. A survey we conducted of state departments of education reveals, for example, that most of those adopting "high stakes" testing policies do so in violation of the standards of the testing industry and do not collect data on the race of those flunked and denied diplomas by the mandatory high school graduation tests. They operate these policies that have huge impacts on students' lives without gathering basic data to evaluate their social consequences.

When other areas of federal policy were converted to block grants under the Reagan administration's changes in federal community development and job training programs, research showed that the states did not seriously enforce civil rights requirements. A study of several Southern states' takeover of the Small Cities community development program, for example, showed a virtual disappearance of civil rights monitoring and a radical

shift in emphasis from upgrading minority communities to subsidizing business development outside those communities. Similarly, after control of job training was transferred to state governments, a detailed study of Illinois showed no civil rights enforcement under the state-controlled program and a shift from long-term training for the disadvantaged to short-term training for a better prepared group.[6]

The fact that states have no miracle techniques in high poverty schools should be apparent in the record of state takeovers of high poverty school districts. We have experience with Illinois' takeover of East St. Louis, Ohio's takeover of Cleveland, California's takeover of Compton, Connecticut's takeover of Hartford, New Jersey's takeover of Newark and other urban districts. A number of state governments of various ideologies in some of the nation's largest and most sophisticated states have shown no ability to produce major changes in student achievement in highly impoverished cities.[7] Many urban leaders believe that state officials have little or no understanding of the circumstances they must cope with.[8] Although state control sometimes cleans up corruption and serious problems in the financial operations of school districts, the state governments have not come close to establishing a record of success in dealing with the educational problems of high poverty schools.

Those who argue that the solution to Title I problems lies in giving state and local officials more autonomy need to examine the experience of several phases of education policy. When Title I was first implemented there were few regulations about fund use, and a report found "improper and illegal uses of Title I funds", state departments of education failing to supervise the program or to comply with requirements that poor people be consulted about the use of the money, and poorly designed educational program.[9] Many state agencies were diverting Title I dollars to support general expenditures.[10] These abuses led to tighter regulations for the use of Title I funds, regulations later greatly relaxed by the new provisions in the 1994 reauthorization of Title I.

A likely indicator of the impact, which block granting of Title I will have, can be found in the experiences resulting from the largest block grant in education created during the 1980s–Chapter Two of the Education Consolidation and Improvement Act. That program consolidated all funds from several programs, the largest of which was the federal school desegregation program, and simply turned it over to the states to pursue the goals as they saw fit. The grants had been allocated primarily to poor and minority districts for the purpose of producing greater equity and fairer treatment. In contrast, the overwhelming pattern of the states, when they received the money, was to distribute the funds in relatively small amounts to all districts. Thus, money that had been intended to address difficult and important issues now simply became a virtually insignificant part of the aid distributed to all districts. The ability of these dollars to leverage support for the original goals or any significant reform was eliminated.

Contrary to common belief, there is already a great deal of decentralization to state and local school authorities in the existing Title I program. In fact, the level of federal supervision has fallen well below the minimum necessary to assure any accountability for producing Title I benefits for low income students. School districts were given freedom to invest in "whole school reform", a vague term, and to end the focus on the poor children inside these schools on the theory that broad change, carefully assessed, could well be more productive than targeted programs. Thousands of schools chose this approach.

The 1994 amendments formalized the process of permitting the use of Title I funds in a more flexible manner. In his February 11, 1999 testimony, Secretary Riley reported to Congress that the department had eliminated "a full two-thirds of the regulations previously covering the Elementary and Secondary Education Act," and cut application "paperwork requirements by 85 percent." The department had granted a total of 357 waivers to states and localities from the remaining regulations and was proposing to "expand ED-Flex to allow all eligible states to participate."[11]

In return for the discretion, state and local school officials were supposed to specify standards and develop solid assessment programs to assure that their approach produced gains for Title I students, including reporting on results for minority students. The recent report of the Citizens Commission on Civil Rights, *Title I at Midstream*, however, shows widespread failure by the Education Department to enforce even the most basic requirements for state accountability. The report concludes, for example, that the Education Department "has approved scores of accountability provisions in state plans that do not conform with the new law." The long-delayed release of the Education Department policies, said the report, "encouraged, but did not require, states to hold districts accountable for the progress of poor and LEP students, not just for overall progress."[12] In

other words, many states are already working under a virtual block grant arrangement and have not been held to key elements of accountability decided by Congress.

If state and local authorities are already dominant in decisions about Title I and very little control has been exercised for many years, why does the idea of block grants continually recur? The story of American federalism has been a continuing back and forth tug-of-war for power and control. The federal role in education grew considerably in the 1960s and it put the spotlight on sensitive issues of race and poverty more sharply than ever before in educational policy. State power recovered in the 1970s and surged in the 1980s, but potential federal leverage remained on the law books. I think that what is happening now is an effort to consolidate unchallenged state discretion and to produce a kind of education revenue-sharing in which the federal dollars, though a small share of state budgets, provide some discretionary money for state priorities while federal authorities tacitly agree to look the other way. In my opinion, this is a serious mistake because the uncomfortable questions about equity and program effects that need to be asked are usually being ignored at the state level.

Another critical role which should be played by the federal government in the implementation of Title I involves the production and translation of research. For a century and a half it has been understood that the role of gathering data and disseminating solid information on educational practice is a role in which the federal government must provide leadership. Yet, David Grissmer, David Cohen, and other scholars involved in this project have noted that there is a very serious shortfall of investment in research and experimentation relative to the size of the Title I expenditures. It is as if we had a policy of continuously feeding billions of dollars into medical treatments that showed no evidence of effectiveness and simply adopted one remedy after another on the basis of our hunches. With a history of falling short, it is important to target spending on approaches that work and to hold school districts accountable for results. That would require federal oversight as well as continuing research to identify new approaches that can be shown to be effective. We still have very little convincing evidence of what to do about many of the basic problems of educating poor children, such as how to increase acquisition of basic pre-collegiate skills of reasoning and analytical writing in high school. The individual states have neither the capacity, the staff nor the desire to duplicate the kind of research and evaluation that is needed.

HIGH STAKES TESTING AS A DRIVER OF REFORM.

Another enormously popular current reform that many believe will "solve" these problems is high stakes testing. A number of states, particularly in the South, have placed a very strong emphasis on testing and assessment for three decades without significantly lowering achievement gaps or improving average achievement (special claims about Texas will be examined later in this chapter). The inappropriate use of testing is, however, rapidly expanding as a central element of state policy, strongly encouraged by the Clinton Administration. While I believe that Congress' decision to insist on accountability for Title I results in the 1994 amendments was appropriate, many of the uses of testing now spreading across the country are likely to worsen already desperate situations.

Assessment of academic progress is a basic necessity in education and public accountability for education of the poor is a very important goal. Setting a standard, however, is not the same as accomplishing a goal, and setting the wrong standard or using the standard in the wrong way can be destructive. Tests for diagnosing academic problems and targeting interventions to help students are invaluable. Those that punish students who have been in inferior schools without curing the inequality are unconscionable. Because of the inherent limitations of tests and the irreversible harm that can be caused by their inappropriate use, testing professionals recommend that no key decision about a student's life ever be made on the basis of a single test. They hold that the use of rigid cut-off points for such decisions is doubly inappropriate, since all tests have margins of error in their measures, the scores of the same student may well be different on different days, and any cut-off point represents an arbitrary definition of the level of appropriate knowledge.

At our conference at Teachers College in December 1998, Nancy Cole, President of the Educational Testing Service, strongly reaffirmed ETS' opposition to the use of cut-off scores in this way. It is wildly inappropriate and counterproductive to use such techniques when the cut-off score level is established through a purely political process. It is as if somebody decided that all Congressmen and Senators should be able to answer 80% of the questions on an intermediate calculus exam, announced that those who scored below the specified level were "mathematically illiterate" and published the resulting data as a measure of Congress' mental ability.

Yet, this is precisely what has happened in a number of states. A kind of politically destructive Gresham's Law seems to take hold, in which advocates for "higher standards" drown out those who caution against the consequences of misusing tests. In the extreme case, almost all students fail the tests and set up a chain of events whereby politicians praise their own toughness as they disrupt students' lives and undermine confidence in public schools. When such tests are used in ways that increase student dropouts and make the students unable to earn a living wage, the farce becomes a tragedy.

While high standards and good assessment are critical, they must be accompanied by timely interventions to ensure that students understand what is expected and receive the help they need prior to taking a test. Students are much more powerfully and positively motivated to learn in this way than by flunking tests and being required to repeat the same course. Policy makers should think about their own learning experiences before pushing for "reforms" such as high stakes grade promotion and graduation tests.

Florida was the first state to implement high stakes testing more than two decades ago. The state created major civil rights problems when it became apparent that a large share of its black students, who had fulfilled all their course requirements, would not graduate. This led to a lawsuit and a Federal court decision, *Debra P. vs. Turlington,*[13] postponing the test and requiring a variety of preparations before it was implemented. In spite of those protections, however, Florida still has the third lowest high school graduation rate in America.[14] Even though the vast majority of states increased testing and accountability requirements after the publication of the Reagan Administration's 1983 *A Nation at Risk* report, the next decade brought about no overall increase in achievement and witnessed an end to the decline in dropout rates.

If there were a clear and positive testing effect, it would be apparent in the many states which have implemented these reforms. Monty Neill's paper, commissioned for another volume by our project, shows that there is no relationship between mandatory high school graduation tests and improved performance in lower grades[15]. In other words, the basic theory justifying such tests–that students rationally react to increasingly demanding requirements by learning more in earlier grades–has little support. If the basic premise upon which high stakes testing is founded is false, and its costs are so severe, then why is it being so widely championed as a panacea?

As states have rushed to adopt high stakes testing, there have been no significant gains in academic achievement. Table 5 charts the change in black-white test score gaps since 1971. The racial gap was at its lowest point in math in 1990 and in reading and writing in 1988 at grade four. At 8th grade, the year with the lowest gap in reading was 1986, writing was 1992, and math was 1986. The lowest gap in science was in 1986. The gap has increased by 8 points in 12th grade reading and 11 points in eighth grade reading since the low point.

This chart offers evidence of an end to declining racial gaps in achievement and a decline in graduation rates for both blacks and whites. Given this information, Congress should exercise considerable caution before imposing new tests and requiring the end of "social promotion" on states and school districts without very seriously considering the potential harm, which these policies can cause to the students Title I is intended to help.

TABLE 4: CHANGE IN THE BLACK-WHITE TEST SCORE GAP
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS LONG TERM TRENDS IN READING, MATHEMATICS, AND WRITING SINCE 1971

	Gap in First Available Scores			Lowest Gap			Most Recent Gap		
	Reading	Writing	Math	Reading	Writing	Math	Reading	Writing	Math
8th Grade	53	27	40	20	21	21	28	22	27
12th Grade	39	25	46	18	21	24	29	29	29

Sources: National Center for Education Statistics, *The NAEP 1998 Reading Report Card, National and State Highlights*; Jay Campbell, Kristin E. Voelkl, and Patricia L. Donahue, *NAEP 1996 Trends in Academic Progress*, Figure 2.

Teacher tests are the latest focus of the national testing enthusiasm. The new state teacher test in Massachusetts, which more than 40 percent of the applicants failed, for example, has stirred up considerable media attention. Policy makers can send out a message that they are tough on teacher quality when they impose such tests. This test, however, has not been validated and produces inconsistent results even for the same person over time. Such tests also tend to eliminate large portions of minority teacher training students, a major problem in a nation with a rapidly increasing percentage of non-white students and a serious existing deficit of minority teachers.[16]

THE TEXAS "MIRACLE"

Claims that the current wave of mandated high stakes tests produce educational gains tends to rely on evidence from Texas and North Carolina, which are frequently cited as models. By far the greatest attention is on Texas. While neither of these states is among the national leaders in academic achievement, they have made substantial gains on math achievement and they do have extensive testing requirements. Advocates have drawn a number of lessons from the experiences of these states, without carefully assessing their accomplishments or the policies and conditions that may have contributed to them. Many proponents of the recent Ed-Flex bill, for example, drew a connection between Texas' much touted success and increasing state discretion, since Texas was one of twelve states enjoying this waiver.

There are two major reasons, however, not to rush to assert that high stakes testing caused the gains. The first is that there are many other states with high stakes tests which have not reported such gains. The other is that both of these states have implemented a number of other reforms that research suggests can produce notable achievement gains. Texas, for example has lowered average class size, substantially increased educational spending, equalized funds for poor areas under a state supreme court order, invested heavily in teacher training, and held schools explicitly accountable for achievement of children in each racial group, forcing more emphasis on equity than is common in high stakes testing. This last factor is often mentioned in discussions of the strong gains in math of minority students tested in Texas. Texas requires accountability data by ethnicity and poverty not only on tests but also on attendance rate, dropout rate and completion of the State Board of Education's recommended high school program. This puts schools under significant pressure for equity. Both Texas and North Carolina have prosperous and growing economies that raise family income and stimulate an immigration of highly educated families from other parts of the nation.[17]

Of 35 participating states, Texas and North Carolina showed the nation's largest increases in fourth grade math scores between 1992 and 1996. Though they were slightly below the national average, Texas' eighth grade student scores also increased substantially, with the most rapid growth from 1990 to 1992. North Carolina had the largest eighth grade growth during the 1990-92 period. In the 1996 eighth grade data, Texas showed a substantial growth in the percent of students performing at the proficient, but not the advanced, level.

In spite of all these reforms, Texas' student scores are only average. Its performance on the recently released National Assessment of Educational Progress in reading data shows, for example, that students' scores have not increased enough to be considered statistically significant since 1992.[18] The gains in math achievement that brought national attention to Texas came earlier, from 1990 to 1996, and are probably based on a number of factors that changed in Texas several years before that, since there tends to be a long lead time before reforms produce results.

In reading and writing, the picture was less encouraging as were statistics on high school completion. The Texas report in the National Education Goals Report for 1997 shows no significant gain in reading since 1992 and no significant gain in the graduation rate from 1990 to 1995. In addition, Texas excluded more students from testing than the national average[19]). We do not know how Texas compares in high school gains because no state level scores have been published for 12th grade. The Texas testing program stops at tenth grade and the claims are based on lower grades. National NAEP trends suggest that there may be little relationship between basic skills gains and the higher order skills tested in high school since the high school scores show no long term gains.

In other words, the Texas story shows that something (or a number of things) positive happened in math achievement in elementary and middle schools in the early and mid-1990s, but that no

similar breakthrough was reported in reading or writing. In any case, the state is within the average range in achievement at these grade levels and still has the nation's second highest dropout rate. The impact on high school achievement is unknown.

While I do not mean to diminish Texas' accomplishments, which are considerable, they do appear to have been blown out of proportion. The cause of these accomplishments is not clear and much of it occurred under several state administrations. Advocates attempting to draw broad conclusions about academic gains from the Texas record often ignore other states where their favorite reform (currently "high stakes tests") has not produced significant gains, and they rarely discuss the much higher levels of average achievement reported in several states without such policies.

Many other factors may be contributing to some modest part of the gains in Texas that have nothing to do with testing systems. To cite one example, Professor John Kain, of the University of Texas at Dallas, has recently reported a very large and rapid increase in black and Latino enrollment in suburban Texas schools. He reports, for example, a 24% increase in suburban black enrollment in just five years in the 1990s. These suburbs contain, of course, many of state's best schools, which, on average, have much higher levels of competition, expressed in average test scores.[20] The relevant point here is to acknowledge that in a large state undergoing rapid socioeconomic shifts, it is highly simplistic to link academic gains to one specific element of a state's many-sided reform effort. If, for example, metropolitan Austin is generating many well-paid technical jobs and thus drawing in highly educated families, that part of the elevated scores reported from schools in this region obviously cannot be explained by the existence of the TAAS test. Quite possibly the real lesson of Texas' gains is that significant progress can be made from a strong and consistent focus on a many-sided educational reform effort that includes accountability for equity carried out over many years.

It can be both short-sighted and counterproductive to place an excessive emphasis upon test scores without balancing this by considering graduation rates, and it is very important to examine the possible costs of the systems imposed in Texas. Texas has the second highest dropout rate in the U.S., seriously threatening the employability, further education, and income of its young adults. The impact of this record on the state's Mexican American students led to the filing of a major civil rights lawsuit against the state's TAAS test by the Mexican American Legal Defense and Educational Fund (MALDEF). A recent report by a Texas research center, the Intercultural Development Research Center, pointed out that, though the state had 50% minority students, 70% of the 147,000 students who were flunked in 1996-97 were minorities.[21] High flunking and dropout rates can, of course, help create higher average test scores, since lower achieving students will either no longer be enrolled in the school, or will be retained in a lower grade.

Another consequence of excessive reliance on test scores is that it creates a powerful incentive to manipulate and cheat. If a school's reputation rides on its test scores, there is a great temptation for teachers and administrators to allow extra time in the test room, to spend scarce resources on "teaching to the test", to find reasons to disqualify low scoring students, and, in the worst case, to change the responses on the answer sheets. In 1998, Texas excluded 15% of its students from the fourth grade testing and 8% from the eighth grade testing because of limited English proficiency or learning disabilities.[22] This is not a criticism of the decisions made about exclusions but rather a recognition that many decisions shape the tested population. In early 1999, Texas reported that it is investigating excessive erasures and corrections in a number of school districts that could be related to reported test scores and threatening criminal action against violators.[23]

Relying too much on test scores and too little on other outcomes is likely to prove particularly destructive for minority children. Heavy pressure to produce higher average school test scores can lead to higher rates of grade retention, increases in special education classification, a disincentive to transition students from bilingual to English language classes, and an increased dropout rate. In some cases, the curriculum in high poverty schools threatened with sanctions is displaced by test-taking drills. Because urban educators understand that it takes struggle and hard work to achieve relatively small gains in average test scores, there is a temptation to take the easy way out by testing fewer students with low scores or teaching students test taking skills.

BEYOND TEST SCORES: LOOKING AT DROPOUT RATES AND OTHER OUTCOMES.

Flunking students and failing them on tests leads to increased dropout rates according to a number of prominent researchers[24]. Many states and school districts are obscuring this problem by reporting

misleading dropout data, indicating a far higher portion of students are finishing high school than actually are. In California, for instance, the state is reporting a dropout rate of only 4%, but a comparison of recent graduates with students in the state's schools four years earlier, indicates that more than 40% of all the state's black and Latino high school students are not graduating. Any policy that would predictably increase such dropout rates deserves to be closely questioned. Who could defend such tests if they produced no gains in achievement, resulted in substantial additional costs, embittered students by maintaining them in ineffective classes, and substantially increased dropout rates?

As the standards-based reform movement increasingly dominated state education policy in the 1990s, the dropout rate has increased for both blacks and whites, contrary to most reports. If students who do not receive high school diplomas are defined as dropouts, the numbers have actually increased significantly. The impact has been masked by a large increase in students receiving GED's, but GED's do not have the same benefits for students as completing high school.

TABLE 5

TRENDS IN HIGH SCHOOL GRADUATION, 1988-96[25]

	1988	1990	1992	1994	1996
Black	76.1	77.9	75.9	75.2	73.0
White	84.4	84.8	85.7	84.2	81.0
Latino	54.4	54.8	56.6	54.2	55.2

Source: Current Population Survey of 18-24 year-olds.

As a rule, students drop out after exhibiting a number of problems—including truancy, flunking courses, being retained in grades, and disruptive behavior, which often unfold and intensify throughout their school careers. For instance, being older than the other students in a grade is a very strong predictor of ultimately dropping out of high school. Even before the widespread recent action against "social promotion" a very disproportionate share of minority students were behind grade level, including about half of black males. (In general, boys are more likely to fall behind than girls in the total population). The 1999 report of the National Research Council requested by Congress[26] comments: " If these rates and differentials in age-grade retardation are characteristic of a schooling regime in which social promotion is perceived to be the norm, it is important to consider what we might observe when that norm has been eliminated."[27]

EXPANDING EFFORTS TO HIGHER GRADES.

Research clearly shows that dropout rates may be lowered with appropriate and timely interventions,[28] yet Congress has never passed a significant program addressing this goal. In fact, this country has never developed a serious program of research and experimentation with better methods to achieve success in high schools. There has been a school-to-work and tech-prep effort but it has been aimed primarily at the small minority of students in voc-tech programs.[29]

One of the problems of concentrating Title I funds on the early grades is that very little of this money is targeted to high schools, where interventions for students are desperately needed. Successful high poverty high schools are much rarer than successful high poverty elementary schools. James McPartland's paper in this volume argues very strongly that we cannot effectively increase the success of students in high poverty schools unless we recognize that early education does not inoculate students against the problems of being a poor teenager in a ghetto or barrio community, and that the problems faced at the high school level are more difficult to address than in the elementary years.

The test score gains that have been made in high poverty schools are almost always at the elementary and middle school level. In the three decades of the National Assessment of Educational Progress, the science score for 17 year-olds is still below the 1970 level. Though it was even lower in the 1980s, the math and reading scores haven't changed significantly and the writing score is slightly lower.

Considering that this has been a period of very intense focus on testing, increased science and math graduation requirements, and rising college entry requirements–the record is not encouraging.

The Reforms of the 1990s. Charter and Magnet Schools

Another aspect of Title I that needs to be closely examined by Congress during its next reauthorization involves the magnet and charter school provisions. Charter and magnet schools represent two other examples of currently popular school reform proposals which are being widely praised with very limited evidence backing up the charter school claims. In my opinion, their popularity stems in large part from the fact that they are essentially proposals to escape the conditions in existing high poverty public schools.[30]

The theory behind charter schools seems to be based on the belief that the public schools are seriously flawed because they are public and that turning over authority to non-public groups or companies will produce a higher quality of education. Many hundreds of such schools have now been formed, yet recent test scores from Arizona and Michigan suggest, for example, that they perform on a par with public schools enrolling similar student bodies.[31]

Like other popular reforms, charter schools do respond to some real problems, but at some equally real costs. Some may be effective, for example, in overcoming the inertia and bureaucratic paralysis which often afflict older inner city public schools, serving high poverty communities. In these schools, principals often have little or no power to remove ineffective leadership, union agreements tend to lock in the status quo, and teachers with choices often leave. The chaotic and often contentious nature of urban politics leads to cynicism and defensiveness among school leaders, who end up fighting to hold onto their jobs instead of curing educational problems.

Charters, magnets schools, new small schools and reconstituted old schools all attempt to overcome these problems with smaller, more manageable infrastructures run by new teams sharing an educational vision. This promise of reduced bureaucracies can be extremely appealing to school leaders coping with problems that suburban officials could not even imagine.

However, these proposals contain some serious drawbacks. The federal charter school initiative lacks some vital policies to protect minorities and the poor that are typically found in magnet and public schools. Some refuse to provide the civil rights protections that public schools must provide, for minority, handicapped, and non-English-speaking students. Magnet schools do tend to place greater emphasis on equity and desegregation goals than charters. Yet, they all must still confront the same educational and social difficulties as the public schools. Congress and the Administration have chosen to increase charter school rather than magnet school funding. There should be a good look at the comparative evidence and consideration of the possibility of reversing these priorities.

Summary and Conclusion

Our conclusion is simple and stark. Title I must work if there is to be any hope for equal educational opportunity in the United States. With the end of desegregation and affirmative action, and with the rising barriers to high school graduation and college enrollment, we must improve the quality of education for low income students, and Title I remains the largest resource we have to accomplish that.

This bill should be based on evidence, not on hunches or anecdotes. If Title I is the ark that carries vulnerable children from dysfunctional and overwhelmed schools to hopeful futures, it has to be built with the greatest care. The stakes are far too high to operate without a map to the other shore. The safety nets are being pulled away and students will have to be able to perform at higher levels, or face lives of devastating failure. With the cutback of civil rights and many social programs, and the disappearance of low-skill jobs, this program is one of the only remaining resources for our most vulnerable children.

The studies in this book suggest that the path to a more powerful impact for Title I is a hard and long one. Improving outcomes in concentrated poverty schools in a society where social class is very strongly related to educational preparation, peer group benefits, and the ability of schools to attract the best prepared teachers, is very difficult. Tough decisions will have to be made about shutting down failing programs and shifting or retraining existing Title I staff. We need to create the conditions in which schools can focus on programs that can demonstrate success and maintain resources there until efforts are borne out.

There is now enough information to demonstrate credibly that Title I can actually bring about educational benefits. But it will not do so if we

simply graft onto ideas and proposals that have popular ratings in the opinion polls. A chaotic series of inconsistent or ineffective reforms will only hurt the goals that are widely shared in the Congress and the country–to give poor kids a fair chance in school.

Instead, the studies reported in this volume suggest that Title I dollars should be directed toward:

1. funding programs that have solid evidence of impact on learning
2. permitting sufficient autonomy for serious long-term implementation of school wide reforms--not disrupting them with inconsistent policies and assessment practices
3. research and experimentation with other alternatives—independently evaluated with random assignment experiments when possible
4. lowering class size in the early grades
5. using choice , magnets, and other techniques to permit students to transfer from high poverty low-achieving schools to more successful schools, as prescribed in the 1994 legislation
6. seriously enforcing accountability provisions supposed to accompany authorization for school-wide use of funds
7. extending Title I programs to higher grade levels and higher order skills, including a serious high school program
8. encouraging deep, long-term retraining of teachers to implement stronger curricula supported by tests assessing the more complex skills involved in those approaches
9. sustaining long-term commitments to maintaining strong curriculum materials, appropriate assessments, and serious teacher education programs
10. ending funding for existing policies where no benefits can be documented in independent evaluations
11. providing new policies and incentives to get good teachers and administrators to work in Title I schools and to stay there
12. focusing assessments not only on raising average achievement in schools but also on raising the achievement of each group.
13. conducting more accurate assessments of limited-English proficient students. We need research to find the most appropriate mix at various ages and levels of English acquisition of native language tests, tests of English language development, and English language tests. In high poverty schools with concentrations of children not yet fluent in English, it is impossible to separate issues of language from issues of Title I programs.

Much larger research efforts are needed. Incredibly, despite billions of dollars spent on Title I programs, there has been little serious research. It is urgently important to concentrate the use of dollars on some of the few programs that have reasonable evidence of success–many fewer than recent policy assumes–and on disciplined research and experimentation to discover and independently assess more successful approaches. Billions pumped into hiring teachers aids, extra teachers without special skills, and materials and technology not seriously evaluated has wasted a great deal of money. Poorly targeted and unevaluated resources need to be cut off in schools not showing results and redirected to expenditures producing more educational growth and increasing graduation and college entry by low income students.

There are no easy answers and most programs have not worked well. It is as hard to find ways to make systems of profoundly unequal schools provide substantially better schooling as it is to find a new medicine or to devise a new hybrid seed. We need serious investments to expand our limited knowledge. This means that much more money is needed for research and it needs to be spent differently and with a minimum of political interference if there are going to be convincing and useful results. There have been very few serious experiments or long-term studies, the research function has sometimes been politicized, and sensitive issues have often been skipped. We must improve this record.

We can hope for amazing changes but must prepare for a long and tough battle. At present there is far too little discernible impact from this large program and signs of growing inequalities. The basic model of education reform for the past fifteen years, emphasizing more tests and higher standards, has not produced significant gains in the nation or among the beneficiaries of Title I.

There is now enough information to show that Title I can actually have benefits but that it requires very disciplined use of the funds and focused educational leadership at the district and school level. Both the 1994 reforms and the Obey-Porter legislation contain approaches that can be beneficial if properly developed and implemented, but that has

not yet been done. It is time to get busy using the dollars for things that work and developing more knowledge about extending these benefits.

We do not think that commissioning and publishing research fulfills our responsibilities in this work. When universities and researchers work in the best way, scholars put forward what they have learned and what they think it means and then face tough questions from others who try to poke holes in their work and suggest other possible implications of the findings that remain after critical examination. We have already gone through this process in our conference, our ongoing discussions and two levels of editing. We know, however, that policy makers, administrators, and educators with experience working in this area will have further questions and want to test the strength of the evidence and the interpretations. We believe that the papers in this volume provide the best available information, but that there is always more to learn.

In order to facilitate the fullest possible exchange of information at the lowest cost, we are creating a list-serve discussion group which will reach all of our researchers and which will enable those interested to participate in an ongoing dialogue. I know that our researchers share a desire to produce the most accurate possible findings and to be of assistance to those who must make the key decisions as the process evolves. You can connect with the e-mail list-serve by sending an e-mail message to the following address: MAILSERV@HUGSE1.HARVARD.EDU. with a message consisting of only the following: SUBSCRIBE TITLE_I-L followed by your name. We provide directions and a list of phone, fax and e-mail numbers of the authors of this study in the appendix.

If we learn of errors or important missing facts we will send the information to everyone on the list-serve.

The discussion and the circulation of new information will make both the policy process and our future book stronger. We hope that we can be part of a process in which policy makers and educators commit themselves to accomplishing more for those who have the least chance for success in our society, where we all try to find the best possible information on effective programs, and actually create effective schools to give excluded children a chance to make it in the mainstream. Millions of children, teachers, and parents struggling to find opportunity amid poverty deserve our best efforts.

NOTES

[1] National Education Goals Report, Washington: GPO, 1997.

[2] *National Education Goals Report*, xiv-xvii, Washington: GPO, 1997 25-60.

[3] Rebecca Hermann, et. al, *An Educators' Guide to Schoolwide Reform*, Washington: American Institutes of Research, 1999. (This report was commissioned by five of the nation's largest organizations of teachers and school administrators to inform their constituencies.)

[4] Prospects: The Congressionally Mandated Study of Educational Growth and Opportunity, Education Dept. Website, "Analysis and Highlights, p. 1.

[5] V.O.Key, Jr., The Administration of Federal Grants to the States (Chicago: Public Administration Service, 1937; I.M. Labovitz, Aid for Federally Affected Public Schools (Syracuse: Syracuse University Press, 1962; Sidney C. Sufrin, Administering the National Defense Education Act (Syracuse: Syracuse University Press, 1963).

[6] Gary Orfield and Helene Slessarev, and associates, Job Training Under the New Federalism: JTPA in the Industrial Heartland, Principal author, report to Subcommittee on Employment Opportunities, U.S. House of Representatives; Orfield and Nathaniel Jackson, New Federalism in the New South: An Assessment of Community Development Block Grants, Co-author, (Atlanta: Southern Education Foundation, 1985).

[7] There was no trend of rising scores in two of the three New Jersey takeover cities and the increases were small in the third. (New Jersey Department of Education data in: Maria Newman, " New Jersey Finds No Simple Solutions in School Takeovers" New York Times, March 21, 1999.

[8] Congress' own recent experience with the results of the imposition of a new governance structure on the District of Columbia schools should show that the problems are very deeply rooted and do not change rapidly even when the entire governmental structure is swept out.

[9] Washington Research Project and NAACP Legal Defense and Educational Fund, Title I of ESEA: Is it Helping Poor Children? Washington D.C., 1969: ii iii.

[10] Ibid., 5-14.

[11] Statement of Richard W. Riley, Secretary of Education before the U.S. House of Representatives Committee on Education and the Workforce on the Reauthorization of the Elementary and Secondary Education Act of 1965, February 11, 1999.

[12] Citizens Commission on Civil Rights. Title I in Midstream: The Fight to Improve Schools for Poor Kids, Fall 1998: 16-18.

[13] 474 F. Supp. 244 (M.D. Fla. 1979).

[14] Marilyn McMillen, Dropout Rates in the United States, 1996, National Center for Education Statistics, NCES 98-250, 1998: 29.

[15] Neill, 1998.

[16] A study by scientists from the Education Testing Service and the ACT studied 160,000 test takers but found that a tougher teacher exam would fail have of Latino candidates and two-thirds of blacks. The study also found that the teachers receiving the highest scores were those most likely to quickly leave the teaching profession.(Peter Schmidt, "Tougher Teacher Tests Seen Hurting Diversity," Chronicle of Higher Education, March 12, 1999: A31.) The Massachusetts exam which provoked national attacks on the quality of teachers, was found by three prominent testing experts to be unreliable in measuring verbal skills, to produce sharply inconsistent results for the same person, and poorly related to the state's curriculum.(Tina Cassidy, "Teacher Test Called Unfair and Unreliable," Boston Globe, Feb. 12, 1999: B1,B9.

[17] North Carolina has many other policies and also has followed a state policy of strongly and successfully encouraging consolidation of its city and suburban school systems into county-wide metropolitan systems and most of its cities do not have the isolated impoverished school districts so common elsewhere. Its largest cities have had metropolitan-wide school desegregation for many years. These and other distinctive features are never noted by those pressing the testing explanation for the gains.

[18] National Center for Education Statistics, The NAEP Reading Report Card: National and State Highlights, 1998: 12-15.

[19] Ibid., table A-4B.

[20] John F. Kain and Daniel M. O'Brien, "The Impact of Minority Suburbanization in Texas Metropolitan Areas on Access to Higher Quality Schools," March 4, 1999.

[21] IDRA: 14.

[22] National Center for Education Statistics, NAEP 1998 Reading, State Report for Texas, NCES 1999-460 TX, p. 16.

[23] Robert C. Johnston, "Texas Presses Districts in Alleged Test-Tampering Cases," Education Week, March 17, 1999: 22-23.

[24] Jay P. Heubert and Robert M. Hauser eds.), High Stakes: Testing for Tracking, Promotion, and Graduation. Washington: National Academy Press, 1999; Karen Kelly, "Retention vs. Social Promotion: Schools Search for Alternatives," The Harvard Education Letter, vol. 15, no. 1 (January/February 1999); L.A. Shepard and M. L. Smith, "Synthesis of Research on Grade Retention," Educational Leadership, vol 47, no. 8 (May 1990): 84-88; Robert M. Hauser, "Should We End Social Promotion? Truth and Consequences," paper prepared for conference on Civil Rights and High-Stakes K-12 Testing," Columbia University, December 4, 1998; Earnest R. House, "Flunking Students is No Cure-All," New York Times, January 30, 1999.

[25] The sample is the civilian non-institutionalized population and excludes those in correctional facilities. There is a substantial undercount, particularly for young black men. The survey question was modified in 1992. These statistics are for graduates, not GED recipients, since GED's have much lower value in the labor market. National Center for Education Statistics, *Dropout Rates in the United States*, 1996, table 13.

[26] P.L. 105-78, November 13, 1997.

[27] Jay P. Heubert and Robert M. Hauser eds.), High Stakes: Testing for Tracking, Promotion, and Graduation. Washington: National Academy Press, 1999: 157-58.

[28] Gary Natriello, ed., School Dropouts: Patterns and Policies, New York: Teachers College Press, 1986; "Research Identifies Effective Programs for Students at Risk of Failure, CREMS, December 1987; Eileen O'Brien and Mary Rollefson, "Extracurricular Participation and Student Engagement," Educational Policy Issues: Statistical Perspectives, National Center for Education Statistics, NCES 95-741, June 1995; Helen E. Garnier, Judith A. Stein, Jennifer K.

Jacobs, "The Process of Dropping Out of High School: A 19-Year Perspective," American Educational Research Journal, vol. 34, no. 2 (Summer 1997): 395-415.

[29] 1992 data shows less than an eighth of seniors in these programs. Digest of Educational Statistics 1997: 137.

[30] "Little Difference Is Found in Charter, Public Schools," the Detroit News, Feb. 16, 1999; Mensah M. Dean, "Charter School Crisis: Fire Code Violations One of Many Problems," Philadelphia Daily News, October 30, 1998; Christine Stoneman, "New Battlefields: As Charters and Voucher Schools Decry theBurdens of Special Edcucation, Advocates for Students with Disabilities Prepare to Defend Hard-Won Gains," Rethinking Schools, Fall 1998: 3; Jay Mathews and Valierie Strauss, "Problems Vex Two Charter Schools," Washington Post, November 19, 1998: B1; Estes Thompson, "Racial Makeup at Issue: Most Charter Schools Don't Meet State's Guidelines," Charlotte Observer, March 5, 1998; Nick Anderson, "Low Marks for Charter Schools," Boston Globe, December 5, 1998; Tim Simmons, "Most Charters Fall Short of Teacher Standards," Raleigh News-Observer. November 13, 1998.

[31] Boston Globe, 1999; Detroit Free Press, 1999.

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BEYOND COMPENSATION: RETHINKING TITLE I BASED ON RESEARCH

ELIZABETH H. DEBRAY
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INTRODUCTION

The idea for this book was born from the notion that Title I, the largest federal program in elementary and secondary education, merited scholarly attention, and that the U.S. Department of Education, for a variety of reasons, might not be in the position to commission it. Having worked at the federal level in education from 1992 to 1996, I understood the valuable contributions that scholarly findings could – and should – make to policy deliberations. The challenge was to find scholars who have identified findings that would have implications for the reauthorization, and to convince them to present and explain them. The Education Department, of course, consults with scholars regularly, listens to the recommendations of independent review panels, and commissions millions of dollars worth of evaluations of the Title I program. The idea, simply put, was that the odds were greater that scholars who were not acting in an official federal capacity might make bolder recommendations about fundamental policy changes than those who were.

The other goal for the book – one I believe we achieved – was a certain synergy that resulted from combining the diverse ideas of top researchers and thinkers across the nation. In assembling this work, we looked for diverse methodologies and scholarly disciplines. We sent out a nationwide inquiry to tap into the expertise of university researchers and independent research organizations. We sought everyone from longtime observers and analysts of Title I; to researchers reporting findings on K-12 reform models that might be applicable to a critical mass of schools; to research staff analyzing data in their own districts.

During the months of conversation and negotiation with this community of scholars/researchers/experts, we posed two questions: What research findings can you present that shed light on improving outcomes for disadvantaged students and for the schools they attend. What are the implications of these findings for policy? We did not know at the outset whether a coherent story would emerge. To a surprising degree, we believe, there is one; and this piece is an effort to explain it. The collective message is: if Congress and the Department will accept the challenge, the Title I law, with some fine-tuning of incentives toward a focus on high-quality instruction, can become an engine for reform that serves the growing numbers of poor students in our schools. We would be pleased if this "idea book" begins a conversation with the diverse constituencies who will be attempting to bring research into the reauthorization discussions.

The Authors' Findings About Factors Influencing Achievement

These papers offer much new evidence about improving student achievement for Title I students. These range from statistical evidence about the benefits to students of coherent instruction, to the possible drawbacks of too much decentralized school-level planning in the implementation of schoolwide projects.

An overview of seven major findings from these pieces:

- State accountability systems that fail to look at performance of minority and low-income students do not produce the appropriate kind of accountability. In contrast, states that are doing so have already seen positive results. For example, in Texas, where the state holds schools accountable for the performance of sub-groups of students, the performance gap on the Texas Assessment of Academic Skills (TAAS) between black and white students has been reduced by 30 percent between 1994 and 1998.
- From an analysis of instructional and curriculum practices from roughly 250 California schools and outcomes on the state assessment, it is clear that student social status is still the foremost predictor of achievement. However, reformed instructional practices also matter, and were found to account for about a third of a standard deviation of CLAS performance levels. Curriculum is central to improving the educational opportunity of Title I students. Enriching the curriculum for all students is a

difficult and long-term process, one that normally offers less to schools with high concentrations of poverty.

- Decentralization for teacher development of curriculum and collaboration in poor schools may actually produce losses in student achievement over the longer term. Teachers who are overextended with decisionmaking responsibilities in multiple domains (i.e. school governance and coordination) had students who gained in achievement at relatively low rates.
- Concentrated poverty in both schools and neighborhoods is a central educational problem that lowers student achievement. An analysis of data from three districts reveals that the prevalence of poverty in students' neighborhoods is as strong a factor in student achievement as is the individual student's own socioeconomic status. Much of compensatory education is an uphill battle to deal with these consequences.
- Class size reduction in the earlier elementary grades is a factor that has been shown to be associated with students' higher achievement in analysis of multi-state data from the National Assessment of Educational Progress (NAEP). It is important that the Tennessee class size study has shown that reducing class size between kindergarten and third grade had the largest effects on black students and low-income students, as measured by those students eligible for free lunch.
- Evidence about the effects of externally developed versus locally developed schoolwide models on student achievement is still scarce. However, one study of Tucson and Memphis has shown positive findings in both cities for Title I schools using external designs compared to schools using locally developed designs.
- The role of the local school district in assisting schools with the phases of selection and implementation of schoolwide projects, whether locally or externally developed models, appears to be a critical factor in implementation success.

The Controversy Over the Effects of Title I

There are two prevailing views about compensatory education as Congress faces the upcoming reauthorization of Title I of the Improving America's Schools Act. The first is to see Title I as a continued failure, a program that still has not produced gains for disadvantaged students throughout its history, even as it has supported their achievement enough to prevent the bottom from falling out from underneath them. The other prevalent view is to see the 1994 law as an implementation failure, a story of missed connections throughout the levels of governance of the program. If more states and districts could set high standards, if more schools would learn about the law and take advantage of the law's new flexibility, and if the Education Department had more capacity to enforce the law, then the program would likely yield better outcomes.

Critics have a point that the Title I program has failed to produce gains in participants' test scores that would narrow the achievement gap between participants and non-participants. Despite the many outstanding successes in individual high-poverty schools, the Education Department's *Prospects* evaluations have shown that the gap between high and low poverty schools is not narrowing. But Jencks and Mayer, representing the perspective that compensatory programs may have had an important effect on the very poorest students, cite trends in the National Assessment of Educational Progress (NAEP) showing "the proportion of 17-year-olds with very low reading and math scores has fallen substantially since the early 1970's."[1] While these authors acknowledge this is only one indicator, it has been borne out in other meta-analyses, or syntheses of thirty years' worth of findings from studies of Chapter I/Title I effects (see Borman and D'Agostino, 1996).

Defining the Problem

The pieces in this book tell a different story: that Title I, with almost $8 billion a year invested in the education of disadvantaged students, has failed to produce outcomes because of the way it is structured. It has not evolved into a coherent, focused program with accountability for results. It has largely served as program that distributes funds to recipients who have not been held accountable for clear outcomes or timelines for implementation. The legislation does not have provisions that tie receipt of funds to effective interventions, either specific state or district-level initiatives or school-level programs that research has linked to higher outcomes.

As Gary Orfield explains in his analysis of the politics of the reauthorization, it is the wrong moment to dismantle the federal role, just when economists and educational researchers are learning more than ever about what kinds of interventions work. David Grissmer and Ann Flanagan explain that a new consensus is emerging that "money

invested in certain programs matters a lot for minority and disadvantaged students, but less so or not at all for more advantaged students." If we examine findings from high-quality, planned variation studies – and can thoughtfully plan more of them – It should reaffirm the national commitment to Title I, because we learn *how* money matters. The program can point to a rich legacy of offering poor communities the extras that have made a difference. But the system lacks the capacity to spread its successes and learn from its failures – characteristics of a "non-system."[2]

Nevertheless, there are critical legislative and administrative changes that can be made to transform Title I from a compensatory program into a program that can bring successful practices for disadvantaged students to scale. What are some of the findings from these pieces that can inform the reauthorization?

Decentralization: The Problem with A Thousand Flowers Blooming

High levels of decentralization and flexibility in the state and local administration of Title I funds by themselves are insufficient to focus instruction in ways that will result in better outcomes. While schoolwide programs are an important step toward coherent, less fragmented instruction, de facto block grants to schools do nothing to ensure stronger instructional policies on the scale that is needed.

A principle underlying the 1994 legislation was that high-poverty schools, if given great flexibility in use of their funds, would be able to learn about or invent, and subsequently implement programs that would educate students to high academic standards. These changes were based on earlier research suggesting that compensatory programs tended to fragment the school organization, which in turn weakened instruction.[3] States, similarly, were able to receive Departmental waivers, submit consolidated plans, and thus politically and administratively unite their Goals 2000 and Title I funds. Title I was to be the engine that drove individual states' standards-based reform efforts.[4] While a certain amount of school-level flexibility is necessary once goals have been specified, this massive decentralization is simply not working in a way that brings success to scale.

The authors' findings support this in many ways. D'Agostino's findings from *Prospects* data, for instance, show that decentralization for teacher collaboration or curriculum planning in poor schools alone may actually produce lower levels of student achievement. When teachers are expected to invent their own programs and curriculum, they are faltering because find themselves overwhelmed by the very difficult conditions in these schools. What makes a positive difference in achievement, he finds, is when teachers' collaboration within a school with social supports for students and staff.

The new Title I legislation should recognize this by introducing a multi-level needs assessment during the various phases of effective implementation of schoolwide projects.

The current law requires only that schools desiring to become a schoolwide project conduct a needs assessment, but only mentions assessing student-level needs. This process ought to include not only assessment of students' needs; but also those of school staff (the service providers), and the overall, organizational needs of the school. This is Jerome D'Agostino's conclusion about how the law needs to change, based on his analysis of the demands that implementation of a schoolwide project makes on the school as organization.

We can expect that if we continue to block-grant thousands of dollars to individual high-poverty schools – no matter how much we believe in flexibility – we will continue to see weak outcomes. High-quality learning opportunities are no accident; they are the result of coherent state policies, as David Cohen and Heather Hill's evidence shows. It is a state's long-term commitment to standards, assessment, and content-based professional learning opportunities that provide the greatest assurance of increasing disadvantaged students' opportunity to learn. If the central problem in improving Title I is using money in a way that has the maximum effect on instruction, the provisions for ensuring this must be strengthened.

Cohen and Hill, using a data set to analyze how the various elements of systemic reforms in California were accessible to students, were able to quantify the comparative effects on Title I students' achievement under these systemic policies. Their work further strengthens the case that poor students' learning does not happen by chance, and that Title I dollars should as directly as possible to improving curriculum and instruction.

Coherent Instructional Policies and Effective Programs

- There are specific instructional elements that must be in place and accessible to disadvantaged students over the long term (at district, state, and

school levels), and the politics of states' standards agendas have not ensured disadvantaged students' access to them.

- Title I must increasingly fund effective and rigorously evaluated programs, and offer incentives to states and districts to learn about and adopt them, while also increasing the flexibility to discontinue programs and strategies that are not working.

Curriculum is a vital part of opportunity, and enriching the curriculum for all students is a difficult, long-term process that normally offers less to schools with high concentrations of poverty. It requires clear definition of learning goals, talented teachers, and their continued professional development in programs that emphasize subject-matter content. Yet when federal policies grant the degree of latitude to states that they currently do to use funds in supporting instructional policies, there are two major problems. The first is that state standards agendas are often so highly politicized that the standards' survival, let alone stability, is often threatened. Second, the standards that states specify for "adequate" performance may be way too low, meaning that there is an overall inertia on the part of the states in identifying schools in need of improvement.[5]

In "Instruction, Poverty and Performance," Heather Hill and David Cohen examine Title I students' access to the elements of effective mathematics instruction in California schools. Their findings show that reformed instructional practices do matter for Title I students, even though they can only account for one-third of a standard deviation of difference between them and their more advantaged counterparts. Further, this piece stands as an illustration of the particularly damaging consequences for poor and minority students when a state's standards system is sabotaged by a political battle. While the learning of all students throughout the system suffers, the loss of instructional building blocks for Title I students is bound to have especially damaging effects. Preparation for and recovery from natural disasters has always been a federal priority, but we have no analogous federal role for safeguards ensuring disadvantaged students' access to the elements of high-quality instruction – both curriculum and pedagogy – when politics threatens their stability.

The general direction of federal policy has been to grant states maximum discretion in selecting instructional policies, then trust that Title I can be integrated with state policies. Cohen and Hill's findings in this piece should cause Congress and the Department of Education's leadership to think differently about the program's instructional policies. Hill and Cohen suggest that federal policy can take steps to specify that teachers' professional development in high-poverty schools is as rigorous and grounded in the subject-matter knowledge of the standards as that of teachers in more affluent schools.

A Word of Caution: The Premature Marriage of Obey-Porter and Title I

In 1997, Congress enacted the Obey-Porter legislation, which gives added financial support for adoption of "whole-school" reforms. The Obey-Porter program gives $145 million to state education agencies in FY 1998, to be awarded to schools through a competitive grant process; $120 million of this money is earmarked especially for Title I schools.

The passage of this law reflects a growing national consensus that governments should encourage the adoption of programs that have been proven effective by research.

Comprehensive school reform is a means to improve student achievement through reorganizing and revitalizing entire schools, rather than implementing isolated programs. It uses well-researched and well-documented models for schoolwide change that are supported by expert trainers and facilitators.[6]

This is absolutely correct; the pieces in this volume repeatedly stress the importance of federal support for programs that have been reliably tested and can be transferred across educational settings and produce learning gains. However, the cautionary note about Obey-Porter is that there is still scant evidence that many on the list of programs the legislation proffers have been "proven effective." Very few models have been evaluated rigorously enough to make that determination. Until the field knows more about program effectiveness, we ought not to encourage federal programs that offer schools incentives to adopt them too quickly. While the law indicates that its list of 17 models are meant to serve as suggestions, the program clearly serves as an incentive for Title I schools to sign on to one of the 17 designated models.

Further, as Ross et al. note in this volume, the Obey-Porter legislation is not specific about how the schoolwide programs it supports will be evaluated: "Unfortunately, federal policies for both Title I and the Comprehensive School Reform Demonstration

program are vague regarding the expectancies, standards, and procedures for conducting evaluations and disseminating results". Without provisions for adequate evaluation, the danger for Title I is that policymakers will look too quickly at Obey-Porter schools for evidence of what whole-school reform models should produce in high-poverty settings. The better course is to recognize honestly that the field does not yet have such a strong evidentiary base; and to support planned experimentation in diverse settings, paired with rigorous evaluation. After all, we should attempt to learn from locally developed schoolwide projects, many of which will produce impressive results that should be widely disseminated.

Mapping Out a Distinct Role for Districts

There needs to be a more explicit connection between the federal level and the district. The district is the institution that can support, assure, and monitor schools' needs assessment and implementation of schoolwide projects. In other words, districts should be given more authority for holding high-poverty schools accountable for outcomes, including the authority to discontinue effective programs funded by Title I.

The district should become the primary unit responsible for helping schools select the most appropriate programs for the adoption and implementation of schoolwide programs, and holding them accountable for specific outcomes. Districts must be given the capacity to evaluate outcomes for "proven effective" programs versus results for locally developed schoolwide projects. And the federal provisions that allow districts to consider measures for deconcentration of poverty should be strengthened because students' achievement is related to the poverty of their neighborhoods, not just their own poverty.

This recommendation is not new. Scholars concerned with compensatory education have long highlighted the importance of a federal role that would more productively support local educational agencies. In 1978, for instance, Paul Berman and Milbrey McLaughlin recognized the importance of districts in implementation of federal programs, because "school district behavior is inherently variable. Local school districts differ in the problems they have; in their capacity to deal with their problems; and in their culture, structure, and setting....phases of the local change process require different types of technical assistance."[7]

Districts' Role in Enhancing Evaluation, Implementation, and Accountability

The research we present offers some specific suggestions about how the federal government could finally become the more active partner in implementation that Berman and McLaughlin envisioned twenty years ago. Bodilly and Berends argue for a federal role that more explicitly recognizes the district as the central arbiter of accountability for schoolwide projects, which is increasingly the crux of making Title I work. Districts should provide a regulatory and political environment that makes it possible for schools to implement comprehensive reform, they recommend. In their study of the role of districts in overseeing implementation of the New American Schools designs, they observe that districts played an essential role in the matching and selection between a particular model and the individual school. For Title I, the importance of this finding is that the district must be central to accountability: as they assist schools in adopting suitable schoolwide projects, they should be able to agree on specific outcomes in a fixed time frame. Flexibility for schoolwide projects does not mean the district leaves them alone and assumes they will produce good outcomes; instead, school and district negotiate the terms of implementation from the beginning, and the district holds the school accountable if it fails to live up to its end of the bargain. Districts should not force schools to accept particular designs; Bodilly and Berends found that such schools lagged in their implementation.

The importance of districts understanding more about the phases of schoolwide project implementation through formative evaluations is explained by Ross et al. Their argument is that districts can not intervene to make "mid-course corrections" in schoolwide project implementation unless they understand more about how the projects work, not just achievement outcomes. While achievement data are always vital for summative evaluations, these may not be sufficient to help districts benchmark where schools are in the implementation process.

Whether it is a broader list of programs that have been proven effective in specific settings or building on findings like Hill and Cohen's about how standards-based reforms matter for disadvantaged students, Title I should become a vehicle for building the knowledge base. Ross, Alberg and Nunnery's research is able to offer a comparison of outcomes in the Memphis City schools for locally-developed versus externally developed schoolwide projects.

They found greater achievement gains for externally developed programs, such as Roots and Wings. But the larger point is that they were able to make these kinds of comparisons at all. Districts ought to be given greater federal resources to carry out this important form of evaluation.

Flexibility as Two-Way: Initiating the Promising, Discontinuing the Ineffective

Autonomy for schoolwide projects is also vital. As districts and their schools eligible for schoolwide project status negotiate "matches" of schools with designs that fit their needs, and implementation proceeds, the schools "...must have increased site-level control over their curriculum and instruction, their budgets, their positions and staffing, and most essentially their mission" (Bodilly and Berends).

Two changes this suggests for the Title I reauthorization are: 1.) Granting greater flexibility for both schools and districts to be able to terminate ineffective programs or fire inadequate personnel. 2.) Encouraging districts to reduce categorical mandates for Title I spending that make it difficult for schools to spend "between stovepipes" (i.e. pooling funding for professional development, technology, or other areas of need). Title I should provide for a flexible structure to help schools discontinue ineffective programs, not just adopt promising new ones. A school or district ought not to have to battle a regulatory structure that makes it difficult to adopt to changes in local needs.

Neighborhood Poverty and Lower Achievement: A Formidable Relationship

The valuable contribution that Steve Schellenberg makes to the discussion of a new federal-district role is his finding that "the prevalence of poverty in the neighborhood is as strong a factor in student achievement as is the student's own economic status". In fact, his data from three districts shows that more affluent students receiving no lunch subsidies "are achieving much less if they live in impoverished neighborhoods." The implication for federal policy is that the districts with the greatest geographic concentrations of poor children should be receiving proportionally more resources.

His findings suggest that the ambitions for curricular improvement and raising of quality of Title I provisions may face an uphill battle against conditions such as exclusionary zoning and concentration of residential poverty. After all, district policymakers interested in equity have very limited alternatives for reshuffling poor children within the city limits in hopes of improving outcomes: as he points out, "in a district with 60 percent of students on free or reduced-price lunch, simply evening out the schools would mean that everyone has 60 percent poor children".

The current Title I legislation contains a provision that could assist districts with facilitating intra-district transfer programs. The law specifies that students in failing schools have the right to transfer to other schools, and funds may be used for transportation costs.[8] But too often, district-level administrators in metropolitan areas have not been made aware of this alternative and this means that the political conversations that ought to take place between urban and suburban educators are not. Congress should strengthen this provision, and the Department of Education should promote demonstration projects that would offer examples of voluntary, workable models that would alleviate the effects of neighborhood poverty. If we can envision Title I students gaining educational benefits only within the limits of their neighborhood, we may not be getting the optimal return on our national investment.

To summarize, the new legislation ought to highlight a central role for districts in oversight and implementation of schoolwide programs. The law should ensure that there is enough regulatory flexibility and equally important, dissemination to districts of detailed information about effective comprehensive, whole-school reform models.

Balancing the Investment: Maximizing Early Interventions and Looking Beyond Them

The present paradigm of compensatory education that supports mainly early intervention is too narrow. The program also needs to meet the needs of at-risk students throughout their educational careers in the upper grades.

Title I is meant to be a national investment. But as with any sound investment, its holder periodically must balance and diversify its portfolio somewhat. James McPartland presents an argument that the program's current framework of spending mainly on the early grades fails to adequately consider disadvantaged students' learning needs in later years. Because students' cognitive needs change and their skills mature, there are numerous opportunities for compensatory education to increase the chances of students' success in school:

> At first, reading requires the decoding skills and vocabulary development to recognize words and sentences from the printed page. But many students who have mastered these rudimentary skills have difficulties in applying reading comprehension strategies to engage with complex written materials and to read for critical understanding. The learner from a poor family and neighborhood where frequent reading of a variety of materials is not the norm will be likely to need extra help not only with the rudimentary reading skills of the early grades, but also with the higher order reading comprehension strategies and competencies of the later grades.[9]

Any solid investment portfolio is well-balanced, and so should federal education resources, he argues. Students are at-risk of educational failure well beyond the early years, and Title I should recognize this by mandating that a fixed minimum amount of funds should be allocated to middle and high school grades. Christopher Jencks and Susan Mayer explained the effects of early grade participation in compensatory programs this way: "Most evaluations show that children who are enrolled in these programs learn somewhat more than comparable children who are not. But once these programs end, their benefits appear to fade. They are not a permanent vaccine against the costs of living in the wrong family or attending the wrong schools."[10]

Class Size Reduction in the Early Grades – A Valuable Example of Planned Experimentation

Grissmer and Flanagan present evidence that class-size reduction in lower grades is strongly associated with higher average state scores on the National Assessment of Educational Progress (NAEP). Both the original study of the large-scale class-size reduction in Tennessee and a later re-analysis reveal that the effects in achievement growth were larger for black students and those receiving free lunches.[11] While we do not yet know enough about *how* teaching and learning interactions are different in small classes, he writes, we do know that reduced pupil-teacher ratios are associated with higher than average state scores (controlling for family differences).

Since fifty states are attempting very different approaches to educational policymaking and improvement, he argues, Title I ought to plan research and evaluation that would capitalize on this advantage. Instead of a program that sends money to be spent in an infinite number of ways based entirely on local discretion, Title I research and evaluation should "identify successful and unsuccessful approaches, define the context in which the programs work best, and improve our understanding about what policies work and do not work for specific kinds of children". In other words, we are sitting on a multi-billion dollar annual investment, and the current policy environment is one rich in its naturally occurring variation. The isolation of the positive effects of class-size reduction for poor and minority students is a critical finding – in fact, one that should be reinforced in this reauthorization. Yet the even larger point is that we would be wise to plan more systematic experimentation via Title I – an idea that is by no means a novel one.[12]

In March 1997, the President's Committee of Advisors on Science and Technology Panel of Educational Technology noted that an important part of improving the federal role in education would include initiation of a major program of experimental research. Their recommendation reads:

> Whereas some 23 percent of all U.S. expenditures for prescription and non-prescription medications were applied toward pharmaceutical research in 1995, less than 0.1 percent of our nation's expenditures for elementary and secondary education in the same year were invested to determine which educational techniques actually work, and to find ways to improve them. The panel strongly recommends that this figure by increased to at least 0.5 percent (or about 1.5 billion annually at current expenditure levels) on an ongoing basis. Because no one state, municipality, or private firm could hope to capture more than a small fraction of the benefits associated with a significant advance in our understanding of how best to educate K-12 students, this funding will have to be provided largely at the federal level in order to avoid a systematic underinvestment (attributable to a classical form of economic externality) relative to the level that would be optimal for the nation as a whole.[13]

Title I, it stands to reason, should be a major mechanism for addressing the Panel's recommendation. Without the ability to spread its own successes and learn from its own failures, Title I develops further features of a "non-system."[14] Again, however, we can not expect Obey-Porter to be the engine for improving systematic knowledge about improvement of practice, when rigorous evaluations have not been specified and the evidentiary research base is still weak. Furthermore, the rapid timeline for

program adoption and implementation creates the wrong incentive when we know that selection of an appropriate program requires time.

Accountability Measures: Tipping the Scales Toward Continuous Improvement for All Groups of Students

Content and effective interventions are only part of improving Title I. The last critical piece is providing incentives for states to modify their accountability systems so that Title I students are not overlooked.

When Goals 2000 and Title I were politically and legislatively wedded in 1994, it was planned as a policy mechanism for gradually ending the over 30-year history of fragmented instruction for students receiving compensatory services. Disadvantaged students were increasingly to be moved into the instructional mainstream; as Natriello and McDill write, this is consistent with the idea that Title I, to be truly compensatory, should not systematically deprive many poor students of instructional opportunities they should have in regular classrooms.

But this leaves wide latitude for the states in determining the quality of instructional standards and assessments, and in devising accountability systems to accompany them. As Chun and Goertz observe, since the Department does not approve states' standards, only the process by which they are developed, there is wide variation among states in how they define "adequate progress" or "proficiency." Absent any consistent federal benchmark (based on NAEP for instance), Title I students in Alabama and California who are termed "proficient" likely have very different skill levels. And testing has become heavily politicized. In many states, there is instability and even acrimony surrounding instructional issues, instead of the kind of carefully balanced elements of instruction that Cohen and Hill say are essential for student learning.

A second set of problems Chun and Goertz document is how Title I has intersected a major 1990s state-level policy trend: school-level accountability. While states holding schools accountable for performance is commendable and necessary, the problem for Title I is that under such systems, schools do not experience pressure to ensure that all of their students' learning improves. For instance, in Maryland, the state has set ambitious learning goals for all students, and timelines for schools to meet them. To be considered "satisfactory," 70 percent of a school's students must score at or above a certain proficiency level on the Maryland State Performance Assessment Program (MSPAP) test. But in such a school, the hypothetical 30 percent who do not meet the standard may be the school's Title I population.

This is not to say that states' accountability measures for schools do not exert a positive influence on paying attention to lowest performing schools. In fact, in Maryland, the reconstitution of consistently low-performing or even non-improving schools is a major component of that state's accountability system. The point is that when a state *only* considers aggregate building-level performance, then there is no mechanism for ensuring that schools pay attention to the learning of the lowest-performing students. Goertz states that in her work in surveying schools' responses to state policies, teachers may experience the incentive to focus special attention on higher-performing students who can be coached up to the "satisfactory" mark. Their paper describes some exemplary districts where continuous progress for Title I students *is* expected and rewarded.

In Chun and Goertz's survey of state policies, Texas is the state that stands out as an exception for its annual yearly performance requirements. Texas's system is different because it addresses equity within schools: in 1998, a minimum of 40 percent of each sub-group (grade, gender, race/ethnicity, economically disadvantaged) of students must pass the TAAS test for a school to be considered satisfactory, and this minimum will be increasing until 2000. This minimum sub-group percentage is the same for *all* students building-wide who must pass TAAS. "While Title I requires districts to report scores for subgroups of students, only Texas requires a minimum level of performance by these subgroups," they write. This kind of performance reporting ensures that the state is tracking bilingual students' progress, which also is an area in which federal requirements are not specified and should be. Another state that has built checks on the lowest performing students into its accountability system is Kentucky, which requires that 10 percent of students in each school move from the lowest performance category (novice) to the next highest (apprentice), in order for the school to be designated "exemplary."

These kinds of incentives need to become the norm, not the exception; and the reauthorization of Title I should tie receipt of funds to states' adoption of sub-group performance accountability systems. Further, there ought to be a consistent national benchmark for Title I proficiency in mathematics and reading, possibly derived from NAEP. Without such a common mark, district, state, and federal

policymakers will continue to be in the dark about how Title I students' performance levels, both in the short and in the longer term.

The Department of Education has been constrained from dictating to states the quality or content of their standards, the terms of their accountability systems, and a consistent mark for identifying schools where Title I students do not progress. But as Kenneth Wong and Margaret Wang argue, there are other possibilities for tightening the federal administration of the program, applying standards consistently for enforcement. These administrative guidelines should offer the terms for federal approval of the quality of state Title I plans.

The Department of Education should be watchful about the quality of state plans. For example, no Title I state plan, EdFlex or otherwise, ought to be approved when it is clear that a state is merely collecting multiple sets of district standards of varying quality and submitting them together out of expediency. The Department should verify that uniform, high-quality content and performance standards will be used across the state.[13] The 1994 reauthorization assumed that states, granted flexibility, would use federal funds to support "high standards." But a passive role Education Department in assuring a high minimum of instructional quality has not produced results, and will not do so absent major changes.

Conclusions

The research we have commissioned identifies several major areas for Congressional consideration in the reauthorization of Title I. A program does not readily "transform" within six years, or even fifteen, from an entitlement program to an engine for "scaling up" successful interventions and pays for the highest quality of curriculum, instructors, and professional development opportunities.

The 1994 reauthorization, while a significant step in the direction of improving student outcomes, made several assumptions that need to be reconsidered. These are:

- Decentralization and block grants to high-poverty schools will produce results;
- High-poverty schools can implement schoolwide projects without a specific role for districts which includes support for formative evaluation and technical assistance;
- States' standards agendas are stable enough that Title I requirements may safely be attached to them without consequences for curriculum and pedagogy;
- States will incorporate sub-group performance, not just reporting, into their accountability systems, without being required to do so;
- The educational community is well enough informed about the kinds of interventions make a difference in specific settings, and that state and district leaders have the capacity to gather and disseminate all that is currently known;
- Continued heavy investment in the early grades should still be our primary investment for compensatory education.

Title I has served the national interest well, but it can contribute far more powerfully than it has to improving outcomes for disadvantaged students. We urge the administration, the Department, and Congress to re-examine these assumptions, and set the stage for the next century.

Notes

[1] Geoffrey Borman and Jerome D'Agostino, "Title I and Student Achievement: A Meta-Analysis of Federal Evaluation Results," *Educational Evaluation and Policy Analysis*, Winter 1996, Vol. 18, No. 4, p. 309-326.

[2] For a recent treatment of this subject, see Seymour B. Sarason, "Some Features of a Flawed Educational System," *Daedalus*, Fall 1998, p. 1-12.

[3] The organizational consequences for schools of the separate administrative structure created by Chapter One was written about widely in the 1980's. See, for instance, Kaestle and Smith, *The Federal Role in Elementary and Secondary Education*, Harvard Educational Review, Vol. 52, No. 4, November 1982; and Richard Elmore and Milbrey McLaughlin, *Steady Work: Policy, Practice, and the Reform of American Education*, February, 1988.

[4] See, for instance, Smith, Scoll, and Plisko, The Improving America's Schools Act: A New Partnership, National Issues in Education: Elementary and Secondary Education Act, ed. Jack Jennings, Phi Delta Kappa, 1995.

[5] For a discussion of the incentives in the program that have mitigated against assuring quality, see Richard F. Elmore, "The Problem of Quality in Chapter I," *Federal Aid to the Disadvantaged*, ed. Denis Doyle and Bruce Cooper, Philadelphia, PA: Falmer Press, 1988, p. 167-180.

[6] This information is from the web site of the

Northwest Regional Educational Laboratory, found at http://www.nwrel.org/csrdp/about.html.

[7] Berman and McLaughlin, "Federal Support for Improved Educational Practice," *The Federal Interest in Financing Schooling*, ed. M. Timpane, Cambridge, MA: Ballinger, 1978, p. 224.

[8] This provision may be found in the *Improving America's Schools Act of 1994*, 103rd Congress, 2nd session, House of Representatives Report 103-761, in Section 116, "Assessment and Local Educational Agencies and School Improvement," (5)(B)(i)(VII).

[9] See James McPartland, "Older Students Also Need Compensatory Services," this volume.

[10] Susan Mayer and Christopher Jencks, "War on Poverty: No Apologies, Please," *New York Times*, November 8, 1995.

[11] See Fred Mosteller, "The Tennessee Study of Class Size in the Early School Grades," *The Future of Children*, Vol. 5, No. 2, p. 113-127, 1995; Word, E., Johnston, J., and Bain, H.P., *Student Teacher Achievement Ratios (STAR): Tennessee's K-3 Class Size Study: Final Summary Report 1985-1990*, Nashville: Tennessee Department of Education, 1990; and Finn and Achilles, "Answers and Questions About Class Size: A Statewide Experiment," *American Educational Research Journal*, Vol. 27, No. 3, Fall 1990, p. 557-577.

[12] For instance, David Cohen, writing in 1971 in Alice Rivlin's book, *Systematic Thinking*, advocated not just more funds for Title I, "but more funds plus an ambitious plan of systematic experimentation. Different programs had to be carefully compared and the same programs tested under different conditions so that promising approaches could be isolated" (cited in Julie Roy Jeffrey, *Education for Children of the Poor: A Study of the Origins and Implementation of the Elementary and Secondary Education Act of 1965*. Columbus, OH: Ohio State University Press, 1978.)

[13] Excerpt from the Report of the Education Panel of the President's Committee of Advisors on Science and Technology, Washington, D.C., March, 1997.

[14] Sarason, cited above.

[15] Report by the Citizens' Commission on Civil Rights, *Title I in Midstream: The Fight to Improve Schools for Poor Kids*, Washington, D.C., Fall, 1998.

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TITLE I: FROM FUNDING MECHANISM TO EDUCATIONAL PROGRAM

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SUMMARY

We provide an historical overview of Title I, the largest compensatory education program, from its inception to the present with particular attention to the targeting of Title I services to children in poverty and members of minority groups.

We first outline the sociopolitical context in which the program originated as a major component of President Johnson's "War on Poverty." The program was rooted in the civil rights movement and Great Society antipoverty programs and was grounded in emerging assumptions about the possibilities for early intervention to improve the developmental trajectories of children.

We next document the fifteen-year history of numerous problems (1965-1980) concerning programmatic implementation. We also trace the legislative history of Title I over the past three decades by highlighting several of its reauthorizations and amendments and the evaluative and sociopolitical sources of these legislative changes. Such changes have been influenced by still shifting conceptions about the limitations and possibilities of using educational services to ameliorate disadvantaging social circumstances.

We critique the history of changes in the complex distribution procedures for allocating funds to local jurisdictions and schools and how such formulas have been mediated by the political interests of various regions and states. We consider the numerous alternatives that have been proposed for shifting the distribution of funds to those most in need.

As part of our broader consideration of how Title I resources have been directed, we provide a brief overview of changes in the kinds of services Title I is authorized to support. We consider aspects such as parental involvement strategies, grade level coverage, various types of curricula, instruction, and social services provided, and the types of delivery models developed for providing institutional services.

Finally, we present a set of recommendations for enhancing the overall effectiveness of the program as it moves forward.

HISTORY OF TITLE I

Title I, "Better Schooling for Educationally Deprived Students," the largest compensatory education program in American history, originated as one component of the federal Elementary and Secondary Education Act (ESEA) of 1965.[1] Title I was the centerpiece of the ESEA and has remained so to the present. The ESEA was one of the major programs of President Lyndon Johnson's "War on Poverty" which was "a massive government assault on poverty developed within the Kennedy-Johnson administration, among officials whose responsibilities were to think about such matters."[2] Many of these officials were holdovers from the New Deal era, and several were academicians on leave who saw a widening gap "between the prospects of the poor and those of the middle class."[3]

Timar[4] succinctly summarizes the sociopolitical context that provided the major impetus for passage of the ESEA in 1965:

> ...the genesis of the Elementary and Secondary Education Act (ESEA) was firmly rooted in the civil rights movement and Great Society antipoverty programs. The significance of Title I's origins is that education became part of a larger struggle for social, political, and economic equality. Consequently, the federal interest in education was framed by the language of rights and entitlement. Education became the centerpiece of social policy, integral to the national commitment to social justice through equal opportunity.

President Johnson was a chief executive who was knowledgeable about the dimensions of power

"and seemingly everything about politics."[5] Within a matter of weeks after Johnson assumed the Presidency in late November, 1963, the array of legislative bills was merged into a legislative program and sent to Congress under the label the "War on Poverty."

President Johnson's "war" was officially launched in 1964, with passage of the Economic Opportunity Act which included the Job Corps, Community Action, and Head Start. The ESEA followed the next year, involving five titles, with Title I designed to provide compensatory education services to economically and socially disadvantaged students.[6] Prior to the passage of the ESEA, President Johnson reported that he wished to be remembered as the "education President"[7] Further, at the bill-signing ceremony for the ESEA, he emphasized that the bill was the most important he would ever sign.[8]

The stated purpose of the 1965 Title I included the following:

> In recognition of the special educational needs of children of low-income families and the impact that concentrations of low-income families have on the ability of local educational agencies to support adequate educational programs, the Congress hereby declares it to be the policy of the United States to provide financial assistance to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs by various means (including preschool programs) which contribute particularly to meeting the special educational needs of educationally deprived children.[9]

In short, Title I was designed to compensate for or overcome the disadvantages in learning associated with home, school, or community experiences by providing equality of opportunity in funding and programming.[10] Although the original basic premise of Title I was that a major cause of variation in schooling outcomes is different levels of funding among schools, this has been an unsettled issue since the *Equality of Educational Opportunity* survey.[11] Nevertheless, "the agreement that there should not be great disparity in funding among school districts has had persistent legal and social acceptance."[12]

Efforts to provide equality of opportunity in programming have been underway since the War on Poverty was launched. The primary device employed has been compensatory education programs, of which Title I is the most important. As noted by Timar, the underlying premise of Title I regulations implied that schools as organizations were not important:

> Title I service delivery was predicated on the assumption that local compliance with federal mandates was sufficient to secure educational results for precisely those students whom the schools had the most difficulty educating. Assessment and evaluation focused on compliance with procedural requirements that were often labyrinthine. In order to comply with federal regulations, compensatory students were segregated from others. The resulting separation between students identified as disadvantaged and low-achieving from the rest simply exacerbated the isolation of Title I students and services.[13]

Concerns among policymakers regarding inadequate programmatic design, implementation, and evaluation led to major reforms in Title I in the Hawkins-Stafford amendments in 1988 and the subsequent revisions of 1994 as part of the Improving America's Schools Act (IASA). Both of these programmatic revisions are discussed below. Here it is sufficient to note that among the most important changes are those involving program coordination, schoolwide programs, accountability for performance, and parental involvement.[14] One of the most important of these changes permits schools with high concentrations of poverty students to use Title I funds schoolwide, rather than only for eligible students. Using funds to aid all students in a school eliminates preoccupation with audits and other technical compliance issues that constrained earlier Title I implementation.[15] As noted by Wong and Meyer,[16] these legislative changes have permitted policy analysts to focus their attention on program design at the school level in ways that are likely to strengthen the schools' organizational competence to develop less fragmented changes to assist at-risk students.

The moral and legal incentives provided by the civil rights establishment for social welfare legislation in general has led Congress over the past thirty years to reauthorize Title I seven times and to mandate the development and institutionalization of a "vast legal and regulatory enterprise to ensure that students, indeed, be served."[17] John Jennings, long-time General Counsel for Education, Committee on Education and Labor, U.S. House of Representatives, attributes Title I's survival and major growth to its

enormous popularity in Congress. Almost from its inception policymakers recognized "that the program has focused on helping children furthest behind in school generally, those in the lowest quartile of achievement, and those are the children who have shown solid educational progress over the years."[18]

Clearly, the most valid measure of the program's popularity with policymakers is its general, steady increase in funding since 1965. The monotonically increasing funding in five-year intervals for the period FY1966-FY1996 is shown in Table 1, which reveals that the funding level in actual dollars has increased 652%.

TABLE 1
TITLE I FUNDING 1965 - 1995[a]

Fiscal Year	Appropriations[b]
1966	$959
1971	$1,500
1976	$2,050
1981	$3,104
1986	$3,530
1991	$6,215
1996	$7,219

[a]Source: U.S. Department of Education, Compensatory Education Programs, Sept., 1997.
[b]All appropriations X $1,000,000

Further, from FY 1966 through FY 1997, Congress has appropriated a total of almost $117 billion for Title I (not shown in tabular form). Adjusted for inflation (i.e., in 1984 dollars) the funding level for Title I has increased from $3.00 billion in FY 1984 to $4.68 billion in FY 1997 (not shown in tabular form), an increase of almost 23%. In sum, since Title I's inception

> the program has been the cornerstone of federal support to education, and its annual appropriation of about $7 billion[19] dominates the federal elementary and secondary education budget. The breadth of the program's influence in public education should not be underestimated. It reached over six million children annually, primarily in the early elementary grades (one in five 1st graders participated in Chapter 1), three-quarters of all elementary, about half of middle and high schools, and one quarter of high schools.[20]

From its beginning, Title I had as its target population students at the pre-school, elementary, and secondary levels. However, it has always concentrated on the early elementary years, a point to which we return below. This funding permitted the development of special curricula, focusing on cognitive skills such as reading, language arts, and mathematics. Funds have also been used to include the extended school day or year to counteract the typical "cumulative deficits"[21] accruing over the conventional school year. Funds often have been expended for classroom aides, often parents of the disadvantaged, and for recruiting and training teachers who specialize in educating disadvantaged students.

Congress has frequently expanded its control over Title I in an attempt to meet the program's twin objectives of providing *equal educational opportunity* for all children (i.e., equal provision of resources for students regardless of their socioeconomic background) and reducing the disparities in *educational achievement* associated with social class membership. Although the second objective received some attention from policymakers over the first fifteen years in terms of evaluation of the program's effectiveness in raising student achievement (an issue we cover below), much of the early attention was devoted to effectiveness of programmatic implementation, that is, to fiscal and programmatic compliance with federal mandates.[22] In adhering to the original premise underlying the program that poverty and school performance are related,

> The legislation allocates funds primarily on the basis of the number of school-age students from low-income families who reside in school districts. Districts, in turn, must select schools to participate mainly on the basis of the low-income students residing in their boundaries. After services have been established in schools, the particular students to be served within the chosen schools must be selected on the basis of their educational need, rather than on the basis of their family poverty.[23]

During the first fifteen years of the program several studies of programmatic implementation revealed many weaknesses, often involving improper expenditures of funds by local districts for general aid purposes rather than for the most needy students.[24] Strict oversight procedures implemented by Congress and the states during the 1970s resulted in Title I services in general "reaching their intended beneficiaries."[25] However,

> the emphasis on fiscal and programmatic accountability by both the Congress and the Department of Education has led administrators to fear rebukes for such fiscal lapses more than to fear criticisms for not raising educational achievement. The problem originated in the requirements of the law and was not the fault of local teachers and administrators. They were placing the emphasis on what they thought the law mandated.[26]

The election of President Reagan in 1980 had substantial impact on the operation of the program. His perceived mandate to curtail federal involvement in elementary and secondary schooling led to cuts in the actual dollar allocations for 1981-1983 and the passage of the Education Consolidation and Improvement Act (ECIA), which merged Title I into the new law and renamed it Chapter I. Chapter I retained the same basic objectives as Title I; namely "to continue to provide financial assistance to state and local educational agencies to meet the special needs of educationally deprived children, on the basis of entitlement calculated under Title I of the Elementary and Secondary Act of 1965..."[27]

The new law simplified Title I by reducing federal reporting requirements. However,

> The metamorphosis of Title I into Chapter I, during the early years of the Reagan administration made little substantive difference in services. Policy debates over the Educational Consolidation and Improvement Act (ECIA) generally evaded issues of program quality, focusing instead on issues of governance and responsibility. In the spirit of program devolution, federal policy simply shifted responsibility for overseeing programs to state and local levels. Funding was cut, but many of the compliance and accountability provisions remained. The change from Title I to Chapter I had negligible, if any, impact on schools. Assessment and oversight of Chapter I continued past strategies for regulating and monitoring compliance.[28]

Significant organizational and operational changes in Title I occurred in 1988, with passage of the Hawkins-Stafford Amendments. These revisions granted schools greater flexibility in programmatic development in return for increased responsibilities for improved student performance.[29] The primary impetus for the legislation was the widely-shared view in Congress and in the executive branch that Title I, in its twenty-plus years of existence, had led merely to modest achievement gains for disadvantaged students, but had not succeeded in closing the gap with their more advantaged peers.[30] Such a view was well substantiated by several studies, arguably the most important being the 1986 investigation.[31] Mandated by Congress, this investigation revealed that the program had produced small, short-term achievement effects that failed to narrow the gap between poor and more advantaged students. As noted by Jennings,[32]

> A major shift in emphasis in Chapter I is occurring; it emphasizes that educational improvements are intended results, not just fiscal and programmatic compliance. Such a shift towards educational accountability has not only begun to change the program at the local level, but it has also attracted substantial additional dollars in appropriations to the program.

Four provisions of the Hawkins-Stafford Amendments to Title I highlight the major emphasis on improved academic effectiveness of the program.[33]

1. *Improved Coordination* between Title I and the regular school curriculum by developing more integrated, school-wide approaches for meeting the needs of all students.

2. *Parental Involvement* – The legislation specified procedures for more systematically involving parents in the planning, review, and implementation of the program through the use of written district policies.

3. *School-wide Projects* – Congress eased restrictions on the development of whole-school reforms where the poverty level was 75% or greater. Such efforts often emphasize programmatic coordination and school-wide goals. As noted by Timar,[34] applying funds for the benefit of all students in a school lessens a concern with "audit trails and other technical compliance issues that characterized prior Chapter I and Title I implementation."

4. *Accountability for school performance* – Congress increased its demands for program effectiveness by requiring school districts to identify schools that failed to demonstrate academic progress and then aid these institutions in developing and implementing improvement plans.

As part of the Hawkins-Stafford legislation, Congress mandated a comprehensive, intensive,

longitudinal study of the effects of Title I on student achievement and other school-linked outputs. Entitled the *Prospects* study, this major undertaking produced two reports[35] [36] which overlapped with an internal study of the program conducted by the U.S. Department of Education[37] and other external studies. This corpus of material provided consensual validation that Title I was still failing to meet the expectations of policymakers.

The interim report of the *Prospects* study[38] appeared shortly before the required reauthorization of the ESEA in 1994. The ESEA was reauthorized by Congress as part of the Improving America's Schools Act (IASA) which was signed into law in October, 1994. This comprehensive legislation synthesized "prominent strands of U.S. educational reform that originated both inside and outside of the school system."[39]

The IASA embraced three sweeping bills: the ESEA reauthorization, the Goals 2000: Educate America Act, and the School-to-Work Opportunities Act. The IASA provided a major overhaul of programs governing an $11+ billion-a-year federal investment in education "designed to help ensure that *all* children acquire the knowledge and skills that they will need in the 21st century."[40]

The Goals 2000 legislation was an outgrowth of the agreement reached by President George Bush and the nation's governors in Charlottesville, Virginia, in 1989. That summit produced six national educational goals which the President and governors collectively committed themselves to reach by the year 2000. These goals established high expectations for educational performance at every stage of a learner's life.[41] In 1994 Congress expanded to eight the number of goals and incorporated them into the Goals 2000 legislation.

The School-to-Work Opportunities Act, jointly administered by the U.S. Departments of Education and Labor, has as its objective the development of a high quality, school-to-work educational system that prepares youth either for well-paying jobs requiring technical skills or for additional education and/or training.[42]

The 1994 reauthorization of the ESEA returned Chapter I to its original name, "Title I." The new amendments to Title I fundamentally overhauled this component of the ESEA. The Director of Compensatory Education, U.S. Department of Education[43] has succinctly summarized the most important changes as follows:

- a focus on teaching and learning instead of rules and requirements;
- high expectations and standards instead of low expectations and remediation;
- state assessment for all children instead of a separate testing system for Title I;
- schoolwide reform instead of isolated programs;
- accelerated curricula instead of drill and practice;
- extended learning time instead of pullout programs;
- continual staff development focused on attainment of high standards instead of on one-time, unrelated topics;
- district/school consultation on funding and program decisions rather than district-level, one-size-fits-all programming;
- parents and schools sharing responsibility for high student performance instead of working independently;
- targeting of resources in amounts that make a difference instead of spreading dollars as far as they will go;
- greater flexibility in exchange for greater accountability for student performance; and
- changing roles from command and control to suggest and support.

These modifications have been usefully subsumed under a "trilogy" of policy changes in the following domains: more demanding content standards for all students; new forms of assessment aligned with the content standards and curriculum; and more academic accountability by requiring districts and schools to make consistent, adequate progress in moving students to proficient and advanced levels of achievement.[44]

The Citizens' Commission on Civil Rights (CCCR), a bipartisan organization that monitors civil rights policies and practices of the federal government, examined the transition to outcomes-based accountability in Title I and found problems of implementation in each of the three domains. In the area of standards, the Commission found that despite the commitment of the new law to high standards for all children, 31 states lacked an approved process for developing performance standards as of July, 1998. In the area of assessments, the Commission identified deficiencies in the Department of Education's implementation of the provisions of the legislation,

noting that the Department approved many state plans that did not meet the terms of the law. Finally, in the area of accountability, the Commission found that the Department of Education has approved many state accountability plans that do not meet the requirements of the law. Approved state policies deviating from the legislative intent include those that failed to include a strategy for holding schools accountable, those that allowed school districts to determine their own levels of acceptable progress, those that failed to hold schools accountable for the progress of LEP and poor children and those that failed to set a single level of adequate progress for all children.[45]

DISTRIBUTION MECHANISM

The complex set of procedures for allocating Title I funds attempts to ameliorate the effects of poverty while balancing the interests of the various states. Funds are allocated to counties, school districts, and schools primarily on the basis of the number of school-age children in poverty.[46] The current law (IASA or P.L. 103-382) contains four different formulas for distributing funds, though only two are presently funded. The basic grant formula had been used to allocate the large majority of Title I funds since 1965 with only a few changes; in 1996 this formula was used to distribute 90% of Title I funds.[47] Funds are allocated on a cost-adjusted basis in proportion to each county's share of the nation's poor children. Local districts are eligible for basic grants if they have at least 10 children in poverty and, since 1994, if they have a poverty rate over 2%. Ninety-three percent of all local districts received basic grants prior to 1994, and this number is down slightly since the introduction of the new 2% eligibility requirement.[48]

A concentration grant formula was first funded for three years beginning in 1978 and then funded again in 1988, and since that time, rising over the years to 10% of total Title I funds. The concentration grant formula is similar to the basic grant formula but allocates funds to counties and school districts with at least 6,500 or more than 15% poor children.[49]

In 1994 two other distribution formulas were added. A targeted grant program uses a weighted-child formula, based on both the percentage and number of poor children in a county or district. Eligibility thresholds require at least 10 children in poverty and a poverty rate over 5%. The grant applies the weights so that only children above each weighting level receive higher weight.

An education finance incentive program was also added in 1994. This program would distribute funds based on the number of all school-age children in a state multiplied by factors that provide higher levels of funding to states with higher fiscal effort and within-state equalization. States would then distribute funds to local districts in proportion to all other Title I funds received by districts.

The targeted grant program and the education finance incentive grant program were added to the 1994 law as a way of compromising House and Senate approaches to the targeting of funds. Neither program has been funded to this point.[50]

Once funds are at the local district, districts select schools to receive the funds by ranking schools according to the percentage of children from low-income families. Schools with a poverty rate above the district average are eligible for Title I funds, but all schools with a poverty rate of 35% or more may receive funds and all schools with poverty rates of 75% or more must receive funds.[51]

Funds are distributed to each eligible school based on the number of low-income students. Each school must receive a per-poor child allocation from Title I of at least 125% of the district-wide, per-poor child allocation to avoid spreading funds thinly across many eligible schools. However, this rule regarding the 125% allocation does not apply if all participating schools have at least 35% poor children.[52]

If 50% or more of the students in an individual school are poor and if the school has a plan to demonstrate how funds will be used to improve the overall quality of the school program while focusing on the needs of the disadvantaged, the school may be eligible for "schoolwide programs." The number of such schoolwide programs has increased from about 200 in 1988-89 to 3,900 in 1993-94, representing 37% of the schools eligible for the schoolwide approach.[53] Schools with fewer than half of their students in poverty and those that do not choose to implement a schoolwide approach provide more targeted help on the basis of educational needs rather than on the basis of family poverty. Districts use their own definition of educational disadvantage to target students for Title I assistance.[54] In this way Title I funds are allocated according to both economic and educational needs.

The failure of 63% of the schools with half or more of their students in poverty to take advantage of the school wide programs option is problematic in view of the growing consensus that such whole school reform efforts are both more likely to be

effective in improving the overall quality of education offered by a school and more likely to lead all students, including poor students, to achieve desired outcomes. Years and years of treating Title I programs as ad-ons may have created substantial inertia in program design efforts that make the move to school-wide programs more difficult. Moreover, mechanical adherence to long-standing Title I requirements leads districts away from the school-wide option.

All local districts receiving Title I funds must comply with three requirements. First, districts may use Title I funds only to supplement, not supplant funds that would otherwise be available from state and local sources. In practice, districts have relied on the "pull-out" program strategy to demonstrate compliance with this requirement, though as Orland and Stullich observe the pull-out approach may be viewed as supplanting normal services since children removed from class are missing regular learning experiences.[55]

Second, districts must use state and local funds to provide services in Title I schools that are comparable to those in non-Title I schools. Districts demonstrate compliance with this regulation by having comparable expenditures per student, teacher training and experience as well as the availability of materials and equipment,[56] though more fine-grained examinations have revealed differences.[57] Perhaps more problematic to efforts to ensure comparability is the fact that the comparability requirement applies only within districts, not between districts within states with inequitable funding patterns, or between states that differ markedly in the levels of resources devoted to education.[58]

Third, districts may not use Title I funds to reduce state and local revenues. Districts typically meet this requirement if state and local expenditures are at least 90% of the prior year expenditures.[59]

The 1994 law governing Title I contained two additional changes in the distribution mechanism for Title I funds. Beginning with the 1997 allocations, Title I distributions must be based on census poverty data that are updated every two years instead of the decennial census data. Beginning with the 1999 allocations, funds are to be allocated directly to school districts instead of to counties.[60]

The move to biennial census updates was prompted by the severe changes in Title I allocations between the 1980 and 1990 censuses. Title I allocations shifted substantially beginning with the 1993-94 grants which were the first based on 1990 census data. State shares of the poor, school-aged population increased in the southwest, northwest, Rocky Mountain states, and some states in the upper midwest while they decreased in the New England, Mid-Atlantic, and Southeastern states.[61] States and districts with substantial declines in their share of poor children had to manage substantial reductions in Title I funds while those with increasing shares received overdue increases.

The shift to making allocations directly to school districts instead of to counties beginning in 1999 is designed to overcome some inequities. Under the current system of distributing funds first to counties, high-poverty school districts in low-poverty counties may fail to receive concentration grants if the counties fail to meet the eligibility thresholds. Other districts in counties that meet the requirements may receive very large concentration grants if they are the only eligible district in the county.[62]

Federal efforts to facilitate comprehensive school reform such as revisions in the Title I reauthorization of 1988 provided by the Hawkins-Stafford amendments, the passage of the IASA in 1994, and passage of the Comprehensive School Reform Demonstration (CSRD) legislation of 1997 (discussed below) are intended "to improve student and school performance through schools adopting a unified, coherent approach rather than adding fragmented programs or investing in personnel dedicated to a small group of students in pull-out programs."[63] Such a strategy seems counter to the "systemic reform"[64] policy which proposes making fundamental changes in the institution of public education from the most distal level of national goals, to state curricula, to the level of the classroom. Advocates of whole-school reform[65] argue persuasively, using empirical evidence, that systemic reforms involving a top-down approach merely provide a framework for change, but they are too far removed from classroom practice to improve the teaching-learning process. Some of these proponents[66] further contend that the systemic approach, involving external pressure on schools from the SEA and/or LEA, is likely to lead to mandated academic programs of a fragmented nature, thus reducing school-level autonomy to make informed decisions about the selection of school reform models. They further contend that this tension can be resolved only by federal authorities discouraging such an LEA policy, and replacing it with "one that is more conducive to the building of capacity and capability at the school level to design and implement school specific and school-wide solutions to the problems the school faces."[67] Other

proponents of whole school reform argue that the federal role in Title I oversight should primarily be to promote and fund "proven models"[68] of whole-school reform and to facilitate the free flow of information in the educational R and D system, and the policy community, which will help promote equal educational opportunities through the nation.[69] In turn, Title I offices in states and districts should develop the capacity to help schools make informed choices among effective reform models by maintaining "libraries of video tapes, print materials, curriculum samples and evaluation reports.[70] They should also develop the capacity to assist in the coordination of activities of professional development services to insure that these providers are fulfilling their commitments.

Accountability for school improvement has been one of the primary issues involved in recent revisions in Title I, dating back to 1988 with the Hawkins-Stafford amendments. It is a major focus of the IASA of 1994 which contains stronger requirements for school and district performance. The accountability systems must be based on state standards and assessments aligned with the standards. Title I now requires districts to identify schools in need of improvement, and states to identify districts that are deficient. In turn, districts are expected to provide capacity-building aid to schools in need of improvement,[71] and states to do the same for districts that fail to meet the standards.

If schools fail to make adequate improvements, corrective actions such as withholding funds, revoking a school's authority to operate a program, and reconstituting a school staff may be taken. A number of studies of the implementation of standards and accountability devices have indicated that several changes specified in the legislation have not been implemented and those that have been instituted have shown only minor impact on teacher performance.[72] Further, the Citizens' Commission on Civil Rights,[73] has charged that the U.S. Department of Education's "enforcement to date of Title I's accountability requirements has glossed over the widespread propensity of school officials to maintain and tolerate a permanent underclass of low-achieving students who are disproportionately poor and minority."

The CSRD Program, recently passed by Congress, is a funding mechanism to support schools that adopt research-based, school-wide, reform models. More specifically, its purpose is "to provide financial incentives for schools that need to substantially improve student achievement, particularly Title I schools, to implement comprehensive school reform programs that are based on reliable research and effective practices, and include an emphasis on basic academics and parental involvement."[74] Better known as the Porter-Obey bill after the two Midwestern congressmen who introduced it, the legislation provides a minimum of $50,000 per year for three years to each school that is approved by its state department of education for funding. With an initial appropriation of $125 million for Title I eligible schools and $25 million for other institutions, the funds are distributed on a formula basis to each state depending on the number of students in grades K-12. There are nine criteria for determining whether models are comprehensive, research-based, and effective, with 17 designs specifically mentioned in the legislation. The first awards are to be made in the 1998-99 school year, with most to follow in subsequent years.

Still other targeting strategies might be considered for the distribution of Title I funds. Block grants might be made to states as was done with Chapter 2 funds. Examining the Chapter 2 experience, Wong and Peterson suggest that block grants in that case led to more local control, less administrative involvement and more political involvement, less attention to redistribution, and more attention to development overall.[75] Parks-Trusz considers the Chapter 2 education block grant as implemented in Tennessee and notes that funds were spread more evenly, with a loss of funds for urban districts and a loss for states with many poor children.[76] Reviewing the impact of block grants nationally, Verstegen concludes that there were adverse effects on states in certain regions (Mid-Atlantic, Great Lakes), on states with large numbers of children in poverty, and on minority children.[77]

Clearly, the attempt to target Title I funds to students who are most disadvantaged is fraught with political difficulties. Like much federal aid, Title I funds are not directed to compensate for fiscal imbalances among states with different levels of need and unequal fiscal resources.[78] We noted earlier how the emerging strategy of bypassing counties and directing Title I funds directly to school districts within states is designed to move funds to the most disadvantaged students. Carrying this strategy of moving to smaller units for the receipt of Title I funds suggests that awards to individual schools and even to individual students or their families could allow funds to be dispersed to those students with the greatest levels of need.

Of course, although moving funds to schools and families would both link the funds more directly to

students in need, they would lead to quite different opportunities and constraints for the delivery of educational services. Targeting funds to the school level would allow efforts such as those suggested by Schellenberg[79] including the provision of additional resources to schools and districts with geographic concentrations of poor children, the implementation of programs and practices deemed most effective for the education of poor children, and the development of innovative programs to respond to the social disadvantages of poor communities. Nevertheless, these efforts would still confront the substantial local political pressures likely to derail them as noted by Hill and Cohen.[80]

It is in the face of such dilemmas that some look to the potential of strategies which target funds to individual students and families. Although such approaches would not be likely to lead to the development of more intense concentrations of efforts on schools with high concentrations of poor children, they might operate in other ways to ameliorate the plight of disadvantaged children. Not only would targeting resources directly to students and families locate them with decision makers who have the most to gain from improving the educational opportunities of the children, they would, at least in theory, also enable some families to relocate children to schools with lower concentrations of poverty where, as Schellenberg notes, they tend to learn more.[81] This last effect is dependent upon the openness of other educational institutions to children in poverty once they are armed with government stipends. Moreover, an unintended consequence of enabling poor families to relocate their children to schools with lesser concentrations of poor children might be to leave the children of the least aware, poor parents in their original high poverty settings, now with concentrations of even less able poor families.

Differences in Participation in Title I by Ethnic/Racial Background

With the long-standing relationships between racial/ethnic minority status and poverty in the United States it is not surprising that throughout the existence of Title I, research has shown a substantial relationship between Title I participation and students' ethnic and racial backgrounds. For example, the percentages of black and Hispanic students served by Title I in 1987 (29 and 22 percent, respectively) were considerably higher than their respective percentages in the school-age population (15 and 8 percent). The percentage of white students participating in the program (45 percent) was lower than their percentage of the school-age population (72 percent).[82] More recent evidence from the *Prospects* study[83] reinforces the 1987 results: across three grade cohorts "between 40 and 50% of Chapter I participants are white, not of Hispanic origin. In contrast, about three-quarters of the non-participants are white, a difference of 50 to 80 percent higher than that observed for the Chapter I students."

Range of Services Provided Under Title I

Parental Involvement

Title I legislation has historically required parental involvement, including activities such as annual meetings and the participation of parents in planning, reviewing, and implementing projects. However, the 1994 legislation expanded such requirements by, among other things, moving responsibility for parent involvement from the school district level to the individual school level, and specifying that the entire school staff participate, not just the Title I staff. Each participating school is now required to involve parents in the development of a school-parent compact that describes how parents, staff, and students share responsibility for improved student performance. Another notable addition in the new legislation is the requirement that schools build capacity for parental involvement through such strategies as coordinating literacy training for parents who need it to be able to work with their children and showing parents how to monitor their children's progress.[84]

Grade Levels

Title I funds reach over six million students each year and flow to over three-quarters of all elementary schools and nearly half of all middle and secondary schools. Title I funds have been expended at the preschool, elementary, and secondary levels, but districts have chosen to concentrate funds on early interventions. About 21-23 percent of students in the first through third grades, 18 to 21 percent of students in the fourth through sixth grades, and 5 to 8 percent of students in the seventh through ninth grades participate in Title I.[85] About half of all Title I students are in grades pre-K to 3 and only 20% in grades 7 to 12.[86]

Emphasis on Basic Academic Skills

Because Title I is primarily a funding source with only broad guidelines directing the use of those funds, school districts and schools can exercise great discretion in how funds are spent. In the *Prospects*

study, school districts reported that between 70 and 80 percent of the funds were used for salaries for instructional, administrative, and support staff.[87]

Historically, school districts have used funds to provide classroom aides and to recruit and train teachers who specialize in teaching disadvantaged students. Most students participating in Title I receive instruction in reading/language arts; fewer students receive math instruction; and very few (about 3 percent) receive services in non-instructional areas such as counseling or health education.[88] For example, Puma, et al. reported that "...of students participating in Chapter 1, 96 percent of 1st-graders, 83 percent of 4th-graders, and 81 percent of 8th-graders received assistance in reading. In contrast, about 30 percent of 1st-graders received services in both reading and math; the corresponding figures for the 4th and 8th grades are 37 and 22 percent, respectively."[89]

As Borman[90] notes, the separate design of categorical programs such as Title I has led to efforts to address students' learning needs through specialized curricular and instructional approaches, with program administrators and teachers generally working in isolation from other staff. Although Title I legislation since 1988 has recommended coordination between Title I and the regular school program and although the 1994 legislation encouraged schools to develop more integrated whole school approaches, targeting and implementation requirements of the sort discussed earlier have continued to lead local educators to maintain the structural separation of these efforts.[91]

Examining national data for first grade students from the Congressionally-mandated *Prospects* evaluation of Title I, Borman[92] found that most Title I reading/language arts students receive supplemental curriculum and instruction different from that presented within the regular classroom in a setting outside the regular classroom. He concluded that participation in Title I reading/language arts programs causes these students to miss valuable learning experiences within their regular classrooms and contribute little net supplemental instructional time. Examining the experiences of students in Title I math programs, Borman found a quite different pattern. Most Title I math programs are offered within the regular classroom with more coordination between Title I and regular classroom teachers and with similar curriculum and instruction.

Delivery models

Much of the debate regarding Chapter I's effectiveness revolves around the most appropriate design or structure for delivering its services to students. There are five different types of delivery modes, which are defined as follows:[93]

- *Pull-out programs*, which remove eligible students from regular classes for special or remedial education.
- *Add-on programs*, which provide instruction at times other than the regular school day or school year (e.g., summer school or before or after school).
- *In-class programs*, which deliver services to students in their regular classrooms.
- *Replacement programs*, which provide to eligible students all of the instruction they receive in a given subject. Typically, such instruction occurs in a separate classroom and includes only other compensatory education students.
- *Schoolwide programs*, which provide services to all students in a school.

In the early eighties Carter[94] noted that the pull-out model was the most common arrangement for providing Title I services. There is perhaps no more controversial aspect of Title I than this "restricted" or isolated educational setting.[95]

Pull-out programs have been criticized on a variety of grounds:

1. There is often a lack of coordination between instruction in the regular and pull-out classes, with teachers rarely and poorly communicating. The result is that poorly achieving students are burdened with having to reconcile different types of instruction.
2. Pull-out programs often "supplant" rather than "supplement" instructional time in basic skills, since the more compensatory programs in which a student is involved, the less instructional time she or he receives.
3. These programs lead to a diminution of the responsibility felt by regular classroom teachers for the academic welfare of disadvantaged students.
4. These programs stigmatize or "label" compensatory education students as inferior in the eyes of both teachers and student peers.

The number of schools using the pull-out approach declined from 84% in 1985-86 to 74% in 1991-92. Other strategies were employed by smaller

proportions of participating schools, with 58% using in-class aides, 51% using computer-assisted instruction, 15% using summer school, and 9% using before- and after-school programs.[96] The *Prospects* data show that the pull-out approach remains the dominant delivery mode with, for example, about three-quarters of all 3rd grade Title I students being pulled out of their regular classrooms.[97]

RECOMMENDATIONS

Title I is one of the most enduring federal education efforts. Thus it is important to consider how this effort should be shaped in the future if we are to have the most positive impact on the educational prospects of disadvantaged students. Our review of the history of Title I suggests three general areas worthy of attention and modification.

Targeting Funds

Title I is ostensibly intended to target the most disadvantaged students in U.S. schools. However, the current grant mechanisms spread Title I funds rather widely throughout the vast majority of school districts in the United States. In many instances, Title I funds flow to less disadvantaged students while those more truly disadvantaged receive no benefits.

Recent legislation regarding Title I has attempted to target funds to schools with greater concentrations of disadvantaged students. However, such efforts have either governed only a limited proportion of funds or have not been funded at all. Clearly, there were difficult political issues involved in more focused targeting of Title I toward the most disadvantaged; the current broad base of political support for Title I is no doubt in part a result of the broad distribution of funds.

Nevertheless, targeting Title I funds more closely to the most disadvantaged students as well as to the most concentrated populations of disadvantaged students is probably key to enhancing the effectiveness of the overall program. More intensive, longer duration, interventions appear to be more effective with at-risk students. By focusing Title I efforts, we may see greater returns to the current federal investment.

In addition, although current legislation does not require districts to favor elementary students over secondary students in the distribution of Title I funds, the current pattern of programming is certainly disproportionately concentrated on elementary school students. In light of our current understanding of the fade-out effect of programs such as those supported by Title I funds, it may be more effective to distribute Title I funds so as to provide programming for certain students from kindergarten through high school completion, a point discussed in detail by McPartland.[98]

Shaping Programs

Title I remains primarily a funding mechanism. However, in contrast to 1965 when Title I was first initiated, we now know much more about how to structure and operate programs to benefit disadvantaged students in U.S. schools. Future modifications of Title I might more explicitly recognize the current state of knowledge and go further than even the most recent legislation to encourage such programs. This is another strategy for targeting Title I efforts.

For example, we know from numerous studies that programs with clear goals for academic achievement, methods and materials linked to those goals, and on-going assessment of student performance are likely to deliver better results than programs without such features.[99] We know that programs that are well coordinated and integrated with the regular instructional program of the school are likely to be more effective than programs that are isolated.[100] We also know that adding extra time for instruction through such mechanisms as before- and after-school hours, or summer programs can make important contributions to student achievement.[101] Finally, we know that intensive, high quality, on-going professional development is important to the success of any compensatory education program.[102]

The most recent legislation (IASA) provides for the flexibility to allow and encourage each of these program elements.[103] However, it may be necessary to move more forcefully to reshape programs funded under Title I to take advantage of our current understanding of best practices. This might entail including specific provisions for certain practices. It might also entail the modification or removal of certain current requirements such as that stipulating that Title I funds be used only to supplement state and local program resources. This particular requirement appears to have a chilling effect on efforts to reshape Title I programs.

Evaluation

Over the past thirty years there have been many evaluations of Title I, both national and local, as noted above. These evaluations have varied in quality and scope, but over time they have employed

increasingly sophisticated designs that have yielded progressively more useful information about the nature of the educational programs supported by Title I funding and the effects of those programs. Although it is easy to object to at least some features of each of the evaluations conducted of Title I, taken together these assessments have contributed substantially to our understanding of effective programming for at-risk students. For example, a recently conducted large-scale evaluation across states using NAEP data[104] reveals that financial resources spent on interventions such as reducing class size in the early grades can increase student performance. Using natural variation and change in such state policies provides well-defined opportunities for assessing the efficacy of various approaches to school improvement. Such change should be used by evaluators to determine how teacher and student behaviors at the classroom level are affected by distance policy interventions.

The investments that have been made in evaluations of Title I appear to have been worthwhile, but such investments could be even more fruitful if certain adjustments were made in past practices. Four adjustments seem particularly likely to increase the value of evaluations. First, while previous evaluations have been sporadic, and responsive to immediate Congressional concerns, future evaluations should be planned to occur at regular intervals as part of a full program of evaluation research aimed at developing a progressively more sophisticated understanding of the effects of Title I programs. Second, while previous evaluations have focused primarily on the short-term effects of Title I programs, future evaluations should combine studies of short-term and longer-term effects. Third, while previous evaluations have relied on outcome measures selected specifically for Title I programs, future evaluations should employ both specially selected and more commonly used state and national measures of student outcomes. Fourth, evaluations should require districts and schools to keep and report student outcome data for sub-groups of students, as is currently the case in Texas as reported by Chun and Goertz.[105]

We know more than we ever have about the effects of Title I, but we have a long way to go in understanding which programs work best under which conditions for which at-risk students. An on-going program of evaluation research will help build our base of general knowledge and allow us to monitor and improve current programs.

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MAKING TITLE I MORE EFFECTIVE: LESSONS FROM RECENT RESEARCH

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SUMMARY

New research is providing more support for the basic thesis of the Title I program- that money directed toward disadvantaged students can have an impact if directed toward effective programs. On the other hand, there is little evidence that at current spending levels, more investment would be effective at boosting the achievement of highly advantaged students. So targeting of resources to more disadvantaged students is supported by current experimental evidence.

The experimental evidence also suggests that lowering class size in lower grades is more effective than teacher aides. However, the direction of future research should be aimed at discovering how teacher and student behavior changes as levels of resources or class sizes are changed. Understanding at this level will allow the design of very cost-effective programs tailored to specific types of children, and to improved uses of Title I funds.

Finally, recent evidence also suggests that state accountability systems may play an important role in student achievement gains. Much research is needed in this area before evidence becomes compelling. But it suggests that assessment and accountability systems may enhance any effects that Title I may produce.

INTRODUCTION

Policymakers and educators have had little help from research in determining how to use Title I funding most effectively. The long term lack of consensus in the research community about which programs and policies are effective has meant that an essential ingredient has been missing in improving utilization of Title I programs. Successful research and development is the engine that drives productivity improvement in every sector of our economy. Without it, progress is likely to be slower, uncertain and more inefficient. So it would not be surprising that some money was spent inefficiently given that no definitive results emerged from educational research that could guide policymakers.

Fortunately, recent research is leading to a new, tentative consensus about the relationship between educational outcomes and educational resources. The mixed and diverse sets of results from previous research had always been interpreted as providing evidence that "money doesn't matter" in education. This interpretation undercuts the premise on which Title I is built. However, a new consensus is building around a theme which states that at current levels of funding, "money invested in certain programs matters a lot for minority and disadvantaged students, but less so or not at all for more advantaged students." This statement is the central premise of Title I.

We review the research literature and the key findings that undermined the older paradigm and provide support for the new paradigm. We then discuss some preliminary results from ongoing analysis of state NAEP scores and place them in context of other research.

REVIEW OF RECENT RESEARCH

From a broad perspective, there has been little scholarly consensus about the effects on children from changing families, communities and schools, and whether additional public investment in schools and social programs would improve children's well-being. For instance, scholars disagree about the impact of the "war on poverty" and of expanded social welfare programs (Herrnstein and Murray, 1994; Jencks, 1992) and whether increased school resources have raised achievement (Burtless, 1996; Ladd, 1996a). There is disagreement about the way communities have changed for black families (Wilson, 1987; Jencks, 1992) and whether the net effect on children of recent changes in the family have been positive or negative (Cherlin, 1988; Zill and Rogers, 1988; Fuchs and Rekliss, 1992; Popenoe, 1993; Stacey, 1993; Haverman and Wolfe, 1994, Grissmer, et al., 1994). There is more agreement about the effects of desegregation – although some dispute remains (Wells and Crain, 1994; Schofield, J., 1994; Armor, 1995; Orfield and Eaton, 1996).

Finally, while many small scale early childhood programs appear to produce significant short and long term effects, there is disagreement about large scale programs – how large the effects from attending kindergarten and pre-school are and how long these effects last (Future of Children, 1995) (Karweit, 1989). Recent evidence suggests that the cost-effectiveness of early childhood programs can depend critically on the characteristics of the targeted group with significant net fiscal returns for the most disadvantaged children, but not for those with less disadvantage (Karoly, et al., 1998).

With respect to school resources, the consensus until recently among social scientists was that providing schools additional resources would have little impact on student achievement—the so-called "money doesn't matter" thesis (Ladd, 1996). This counter-intuitive view actually dated from the "Coleman Report" which found family influence strong and little effects of school resources" (Coleman et al., 1966). Influential reviews by Eric Hanushek (1989, 1994, 1996) also argued that evidence from over 300 empirical studies provided no consistent evidence that increased school resources raised achievement scores. While this view was always challenged by many educators, policymakers and parts of the research community, the empirical evidence simply suggested otherwise.

This scholarly consensus began to crack in the early 1990s. Hedges and his colleagues conducted a formal meta-analysis of the studies that Hanushek had reviewed. They found that most of these studies lacked the statistical power to detect resource effects even when they were quite large. When Hedges and his colleagues pooled data from all available studies, the results indicated a positive, statistically significant effect and provided some evidence that some programs may have large effects (Hedges et al., 1992; Hedges and Greenwald, 1996). Other work more often conducted with alternate methodologies like Hierarchial Linear Modeling rather than the "production function" framework used in the econometric community often showed positive effects of resources.[1]

Nevertheless, Hanushek made one argument that was hard to rebut. Measured in constant dollars, expenditures per pupil doubled between the late 1960s and the early 1990s. Yet the National Assessment of Educational Progress Tests (NAEP) of representative samples of 9, 13 and 17 year old children seemed to show little improvement during the period when resources rose so rapidly. The increases in overall NAEP scores from the early 1970s to 1992 were between .10 and .20 standard deviation for 9, 13 and 17 year old youth.

However, accumulating evidence is now challenging the accuracy of previous empirical studies, the historical rate of growth of educational expenditures, and the lack of improvement in achievement scores. This evidence includes:

- Evidence that minority and less advantaged children have made substantial gains in test scores in the 1970 to 1990 period, but more advantaged white students have made only small gains;
- Evidence that the timing of score gains of minority children seem to be related to both the civil rights and war on poverty efforts as well as declines in class size;
- Evidence that increases in educational resources from 1967-1991 available to increase achievement of regular students has been markedly overestimated;
- Evidence that the more limited real resources available to increase achievement scores from the late 1960s to the early 1990s was disproportionately targeted at minority and lower income children;
- Re-analysis of experimental data on the effect of class size;
- Evidence that model specifications used in many previous studies involving non-experimental data have been flawed.

We first discuss the evidence from NAEP scores and the companion findings concerning resource growth and targeting. We then discuss several hypotheses for large black score gains in the 1970s and 1980s and the correspondence with experimental data on the effects on class size. Finally, we discuss why estimates on the effects of resources from non-experimental data are now being seriously challenged, and probably have to be discounted in favor of the experimental data.

Rising Resources and Rising NAEP Scores

The often quoted evidence that real per-pupil resources doubled in education from the late 1960s to early 1990s while NAEP scores stagnated is wrong for four reasons. First, although mean NAEP scores did not rise much, this was partly because of rapid growth in the low-scoring Hispanic population. When disaggregated, scores for all racial/ethnic groups rose in reading and math for all age groups.

Non-Hispanic whites scores rose by smaller amounts, while scores for Hispanics and blacks rose dramatically.

More recent analysis using NAEP data is focusing on the overlooked, but unprecedented gains in minority NAEP scores in the 1970s to the mid 1980s, and their subsequent lack of gains (Grissmer, et al., 1998a; Grissmer, 1998b, Cook and Evans, unpublished; Hedges, et al., 1998; Hauser and Huang, 1996; Hauser, 1996). The size of the gains were between .3 and .8 standard deviation across all age groups and subjects. One hypothesis arising from these papers is that rising black scores may be due to changes in schools for black students (perhaps aided by Title I funds) and/or a change in the behavior of black parents, children and their teachers stemming from the Civil Rights and War on Poverty legislation which may have significantly changed their incentives for achievement and their schooling experience (Grissmer, et al., 1998a).

The most striking feature of the NAEP results for blacks is the size of adolescents' gains for cohorts entering from 1968-72 to 1976-1980. These gains were .6 standard deviation averaged across subjects. Such large gains for very large national populations over such short time periods in tests similar to NAEP are rare, if not unprecedented. Scores on IQ tests given to national populations seem to have increased gradually and persistently throughout the twentieth century, both in the United States and elsewhere (Flynn, 1987; Neisser, 1998). While evidence exists for large gains on the RAVENS test, which measures a narrower ability than tests like NAEP, the gains on tests similar to NAEP have averaged about .02 standard deviations per year—a fraction of the black rate in the 1980s. No one has been able to explain these gradual, persistent gains in IQ scores, nor do we know whether the gains are larger for minority or other subgrouping of the population (Flynn, 1987). But no evidence exists in this data involving large populations showing gains of the magnitude made by black students over a 10 year period.

It is even unusual to obtain gains of this magnitude in intensive programs explicitly aimed at raising test scores. Early childhood interventions are widely thought to have the largest potential effect on academic achievement, partly because of their influence on brain development. Yet only a handful of "model" programs have reported gains as large as half a standard deviation (Barnett, 1995). These programs were very small scale programs with intensive levels of intervention. Even when early childhood programs produce large initial gains, the effects usually fade at later ages. Among blacks who entered school between roughly 1968 and 1978, in contrast, gains were very large among older students and were not confined to small samples, but occurred nationwide.

Large changes in scores of .5 standard deviation and more, which are sustained through older ages, have been observed when sustained interruptions in schooling occurs at younger ages (Ceci and Williams, 1997). Black students typically gain about .4 standard deviations a year on the NAEP tests between the ages of nine and thirteen. In terms of "grade equivalents," therefore, black adolescent gains were equivalent to approximately 1.5 years of additional schooling. The large black gains sustained for older students suggests that there may have been a major change in the quality of blacks' school experience beginning in the late 1960s. This change in school experiences could reflect social and legal changes aimed at equalizing educational opportunity, additional educational resources that were especially helpful for black students, and the implementation of civil rights legislation creating new job opportunities for academically successful blacks, which may have made black students more eager to take advantage of any opportunities their schools provided.

The second part of Hanushek's argument, that massive amounts of additional money in real terms were provided to schools, was undercut by research that showed that that real increases in educational expenditures was far less than the CPI adjusted per pupil expenditure data would indicate. Use of more appropriate indices for adjustment of educational expenditures due to their labor intensity provides much smaller estimates of real growth (Rothstein and Miles (1995), Ladd (1996a)). Third, a significant part of the smaller estimated increase went for students with learning disabilities, many of whom are not tested.[2] A significant part also went for other socially desirable objectives that are only indirectly related to academic achievement. Taking into account better cost indices and including only spending which would have been directed at increasing achievement scores, Rothstein and Miles (1995) concluded that the real increase in per pupil spending on regular students was closer to 30 percent than to 100.

Finally, whether additional resources can be associated with increased test scores depends on how increased spending was distributed. The evidence in Rothstein and Miles, 1995 shows that a disproportionate amount of resources was directed toward minority and lower income students or to

programs that would be expected to benefit disadvantaged students more.[3] Scores of minority students and lower scoring white students all showed large gains. The argument that additional resources did not matter fails for these students. However, if significant additional resources were also directed toward advantaged students, the evidence would show minimal gains. The lack of gains for higher scoring non-Hispanic white students may indicate that additional resources directed toward them may not have mattered, but did matter for the rest of students (Grissmer, et al., 1998a).

Newer Research Evidence and the Tennessee Experiment

Newer studies using better and more recent data are beginning to show more consistent and positive effects from resources (Ferguson, 1991) (Ferguson and Ladd, 1996; Raudenbush et al., forthcoming). Two books published in 1996 addressing the questions of the effect of school resources on both short term educational outcomes and longer term labor force outcomes were unable to explain the apparent diverse results from the literature (Ladd, 1996b; Burtless, 1996). While unable to explain the diverse results, the summaries focused attention on more specific and testable questions (which uses of money matters) and on the critical methodological assumptions underlying much of the literature.

The most important new evidence for challenging the view that money doesn't matter comes from a large scale experiment in Tennessee on the effects of class size. Well designed and implemented experiments have significant analytical advantage over non-experimental results which always rests on many explicit and not so explicit assumptions. The large, multi-district study in Tennessee randomly assigned about 6,000 students to reported class sizes of approximately 14 or 22 students in grades K-3.[4] The original results found that reducing class size between kindergarten and third grade had raised achievement scores by about .25 standard deviation, but effects were larger for black students and those receiving free lunches (Word et al., 1990; Finn and Achilles, 1990; Mosteller, 1995, Finn and Achilles, 1999). The results also suggest that teacher aides have a small positive effect, but this effect was not statistically significant.

After the initial analysis, there were significant questions concerning whether the inevitable departures from experimental design that occur in implementing such experiments biased the results. A new analysis has undertaken a more rigorous analysis addressing these departures and obtained similar results (Krueger, 1998). The effects of being in a smaller class from K-3 estimated from Krueger's equations is from .19 to .24 standard deviations. The estimated effects for white and black students was .17 and .26 standard deviations respectively. Following the experiment, Tennessee also cut class sizes to about 14 students per class in 17 school districts with the lowest family income. Comparisons with other districts and within districts before and after the change showed even larger gains of .35 to .5 standard deviations (Word, et al., 1994; Mosteller, 1994). Thus, the evidence here suggests that class size effects may grow for the most disadvantaged students.

Perhaps more importantly, Krueger's analysis suggests that the methodology being used in the "best" models being used to estimate non-experimental data could not replicate the Tennessee results. Models using previous year's test scores as controls, a measure used by Hanushek, 1996 to select the best studies, would measure only a small part of the class size effect because most of the effect was measured in the first year that students attended smaller class sizes in Tennessee. On the other hand, pure cross-sectional models without previous years scores could duplicate the Tennessee results. This observation meant that previous reviews could not be used to assess effects since they included many measurements with flawed specifications.

Grissmer and Flanagan, 1998a focus on the methodological implications of the sustained effects through 8th grade from smaller classes in K-3. Although all children were returned to larger classes in grades 4-8, the children who were in smaller classes in K-3 had higher achievement scores in 8th grade than those in larger classes in K-3 (Finn and Achilles, 1999). Moreover, the more time children spent in smaller classes in K-3, the larger is the sustained effect through 8th grade (Nye, et al., 1999). However, the difference had declined from the 3rd grade level. This finding indicates that class size in K-3 is still changing achievement scores through 8th grade. The methodological implication is that empirical models that do not have historical data for all years of school may be biased.

A second set of results from a quasi-experiment in Wisconsin is providing a set of results similar to Tennessee. Reductions in class size that were similar or larger than Tennessee targeted toward schools with higher proportion of Title I students shows

achievement effects similar to the Tennessee results (Molnar, et al., 1999).

A key question is why smaller class size boosts achievement. More recent research is identifying what teachers and students do differently in small and large classes (Finn and Achilles, 1999; Betts and Skolnick, 1999; Molnar, et al., 1999; Rice, 1999). The preliminary picture is that teachers spend less time in discipline and administrative tasks, but more in actual instructional time. Teachers in classes with more disadvantaged students spend more time on non-instructional tasks (discipline and administration), so class size reductions result in a much greater boost in time on instruction than in classes with fewer disadvantaged students. Teachers in small classes also spend more time in individualized learning rather than lectures.

Trends in State Assessment Scores

It is not possible with the long term national NAEP scores to compare states, due to insufficient sample size. However, since 1990 the NAEP tests have been administered to representative samples of students in about 44 participating states. Table 1 describes the seven tests that have been given in reading and math at the state level. Gains in scores can be estimated between 1990 and 1996 for eighth grade math scores, between 1992 and 1994 for fourth grade math tests and between 1992 and 1994 for fourth grade reading tests.

The educational systems in our states show a remarkable amount of variance in many of the key characteristics that are often hypothesized to cause achievement differences for students. In 1993, average pupil/teacher ratios among states varied from twenty-four in California to twelve in Vermont. Levels of spending per student varied from $9500 in New Jersey to $3000 in Utah and Mississippi. Teacher salary levels range from almost $52,000 in Connecticut to less than $27,000 in North and South Dakota, while a measure of the experience of the teaching force – proportion of teachers over age 50 – varies from 11 percent in West Virginia to almost 30 percent in Connecticut. The proportion of teachers with advanced degrees varies from over 80 percent in Indiana to less than 20 percent in North Dakota.

While states have always had significant influence over K-12 educational policies in this country, that influence has increased even more during the latest wave of educational reform dating from the mid to late 1980s. States are even more influential in determining how much is spent on K-12 education and how much difference in per pupil spending occurs across school districts. States have established minimum teacher salary levels, strengthened teacher certification and student promotion and graduation requirements. States have established new rules governing class sizes. States have also taken the initiative to establish state-wide assessment systems and use the results to provide feedback and accountability at the classroom, school and school district level. Many states have also initiated charter schools, school choice options and contracting out of schools.

Having fifty states taking different approaches to education can provide a powerful advantage in the long run if research and evaluation can identify successful and unsuccessful approaches, define the context in which programs work best, and improve our understanding about what policies work and do not work for specific kinds of children. If this occurs, successful policies and practices can be adapted across states in a continual and ongoing process of improving education. Evaluating the impact of different and changing state policies then becomes an integral part of improving our schools and student outcomes.

The NAEP data can provide comparable measures of achievement across states. The test score data contains 271 scores from 44 states. This data has both strengths and weaknesses with respect to other data sets in providing analytical results. And the lack of consensus about how to appropriately specify models for non-experimental data will increase the uncertainty associated with any non-experimental study. So the results from the state scores must be placed in this context.

A preliminary analysis of these scores has been done using random effect models and utilizing Census data to overcome certain deficiencies in the family data associated with the NAEP data (Grissmer, et al., forthcoming). From the standpoint of the Title I program, the results reinforce the results from the Tennessee experiment and tend to support the new paradigm. Once family differences across states are controlled, the results show pupil-teacher ratio to be associated with higher average state scores, and effects are larger in states with more disadvantaged students. States that have large proportions of low income children in public pre-kindergarten – other things equal – have higher average state scores. The results of the models developed in this analysis are consistent with the results from the Tennessee experiment. However,

TABLE 1
DESCRIPTION OF SEVEN STATE NAEP READING AND MATH TESTS

Year	Subject	Grade Level	States Tested	Range - Student samples	Range - School samples
1990	Math	68	38	1,900-2,900	30 – 108
1992	Math	88	42	1,900-2,900	44 – 143
1992	Reading	44	42	1,800-2,800	44 – 148
1992	Math	44	42	2,000-2,800	28 – 112
1994	Reading	44	39	2,000-2,800	51 – 117
1996	Math	88	44	1,800-2,700	51 – 132
1996	Math	44	41	1,800-2,700	30 – 116

until we understand more about how teachers change their behavior under different class sizes, no set of results from "production function" models for non-experimental data will be seen as definitive.

The state NAEP trends show that states are making different rates of progress in improving scores. Texas and North Carolina are among the states having the highest rates of improvement. These NAEP improvements are mirrored by their state assessments as well. A recent study of these gains suggests that state "systemic initiative" reforms is the leading hypothesis that may explain such large gains (Grissmer and Flanagan, 1998b). These initiatives include setting clear standards by grade, assessing the students using these standards, and initiating accountability at the school level. These initiatives also included holding all students to the same standards, efforts to equalize spending across districts, and building effective feedback systems to teachers and principals on assessment results.

NOTES

[1] For two recent examples see Gamoran, 1996 and Raudenbush, forthcoming.

[2] All sides agree that a disproportionate fraction of the expenditure increase during the NAEP period was directed toward special education (Lankford and Wyckoff, 1996; Hanuskek and Rivkin, 1997). Hanushek and Rivkin estimate that about a third of the increase between 1980 and 1990 was related to special education. NAEP typically excludes about 5 percent of students who have serious learning disabilities. However, special education counts increased from about 8 percent of all students in 1976-77 to about 12 percent in 1993-94. These figures imply that 7 percent of students taking the NAEP tests were receiving special education resources in 1994, compared to 3 percent in 1976-77. This percentage is too small to have much effect on NAEP trends, but it should in principle have had some positive effect.

[3] Rothstein and Miles data analyzed detailed data in only 9 school districts. More evidence is needed nationally concerning the relative allocation of additional resources among different types of students. There is little doubt that many new programs were initiated or expanded directed toward minority or low income children. These included compensatory education programs like Title 1 and HEADSTART, efforts within states to change to more equitable funding formulas and desegregation initiatives. However, more direct evidence nationally based on school district funding levels for more and less advantaged districts is needed.

[4] These class size figures of 22 and 14 are commonly cited. However, these may only reflect the number of students per class who were tested(communication with Jeremy Finn). Other figures for average class size and student/teacher ratio in Tennessee around 1985 would suggest that the actual class sizes were closer to 25 and 17 in the experimental and control groups.

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INSTRUCTION, POVERTY, AND PERFORMANCE

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INTRODUCTION

Like many other states in the late 1980s and early 1990s, California sought to enrich the quality of teaching and learning in its public schools. For the first time since the curriculum reforms of the late 1950s, a broad movement had emerged to raise the quality of instruction in the nation's elementary and secondary schools. But unlike the '50s reforms, which were led by academics and federal agencies, this new wave of efforts was championed by governors and legislators, top state education officials, and business leaders.

California adopted new, ambitious instructional goals intended to make classroom work more intellectually rich and demanding. The state aggressively tried to change curriculum, testing, and teachers' knowledge, beliefs, and practices. One result was an ambitious and fairly comprehensive effort to support more challenging instruction in the core subjects. Another result was heated controversy about the reforms, which inflamed the state during the early and mid-1990s, and has slowed or stopped the reforms by now.

Still another result was an opportunity for researchers to learn more about the conditions under which ambitious instructional policy affects classroom practice, and whether changes in practice affect student performance. That issue is important, because past research has shown that typical classroom instruction tends to focus on discrete basic skills without any connection to underlying ideas and concepts, thus limiting students' opportunities to learn.

The issue also was timely, for the recent wave of school reforms were not only unusually ambitious, but also more likely to affect practice than the curricular reforms of the late 1950s. One reason why is the fact that the newer reform efforts were sponsored by state policymakers, which gave the reforms more influence, and brought the newer reform efforts closer to the classroom. Another is that many of the recent initiatives were better designed than the curriculum reforms. While earlier efforts to focus teaching on broader meaning and understanding, not just basic skills alone, had wilted under the pressure of existing classroom arrangements, teachers' attitudes, and their knowledge,[1] perhaps the later, more forceful, and better designed reforms would meet with more success. If they did, something could be learned about the conditions under which policy can affect teaching and learning.

A second issue—if policy did affect practice, and thus offer improved learning opportunities to students—is whether those effects were distributed equally across the state's classrooms. The importance of this issue is underlined by research showing that instruction and educational opportunities vary by students' social class and ethnicity, and that educational opportunities in turn have appreciable effects on student's life chances and political participation. Looking back at research, one would predict that disadvantaged students would be afforded fewer opportunities to engage a "thinking curriculum" like the kind promoted by the California math reforms. But unlike the 1950s curriculum reforms, the recent efforts in California and other states occurred after several decades' of active, though at times uneven, concern, with problems of inequality. During the intervening decades, California made extensive efforts to reduce educational inequality with a variety of programs, and awareness of these problems is much greater now than when Admiral Rickover, Jerrold Zacharias and others led a national movement for excellence though curriculum reform partially in response to the pressure of Cold War competition. One bit of evidence for this changing attitude is that the recent reforms laid great stress on the idea that "all students" should benefit equally from California's efforts to improve teaching and learning. Perhaps unequal access to a thinking curriculum could be reduced by such efforts.

We are members of a research group at Michigan State University that has been working for a decade to learn how the new curriculum reforms affect practice, and thus offer improved learning opportunities to students. We examined documents, followed state and district offices leaders, visited elementary classrooms in three school districts, followed the same teachers for four or five years, and studied efforts to improve teachers' knowledge and skill in various professional development projects. This research focused on both reading and mathematics.

In order to test the breadth of our findings about the extent of change in math teaching, we supplemented those studies with a survey of the state's elementary school teachers.[2] We found that

instructional policy can indeed influence practice, and student achievement—but only under certain conditions. Policy alignment of curriculum, assessment, and professional development policies seemed helpful, but not sufficient, to have a significant impact on changing instruction. Teachers also needed opportunities to learn the practices, views of student learning, and subject matter associated with the reforms. Our research showed that in California these learning opportunities for teachers were supplied in some part by policy supporting teacher learning, and also by a "marketplace" of professional development and curriculum providers helping educators translate the reforms into everyday practice. Improved mathematics instruction depended on teachers taking advantage of opportunities to learn about improving their teaching.

Thus, while the state's ambitious mathematics assessment only fostered modest change among all teachers, there was more substantial change among a smaller percentage of teachers who used the assessments as an opportunity to rethink and revise their classroom instruction. We proposed in 1998 an "instructional model of instructional policy," teaching teachers about policy goals.[3]

In this study, we focus on the quality of mathematics instruction offered to children in high-poverty California elementary schools – the very children likely to receive Title I services – and especially on inequality of access to the improved instruction that state leaders were pressing. We probe whether reformed practices have equally reached the state's classrooms, and whether the conditions that foster improved practices are equally available to teachers of students of different social class backgrounds.

We hope, in the process, to improve on much existing research on social class and classroom instruction. While there has been extensive study on the relationships between social class and conventional school resources, there has been much less work on the relationships between social class and instruction. Most existing studies examine cases of a few schools or classrooms, but we have a sample of an entire state's elementary schools; that creates a much more adequate base from which to make generalizations. This will help us understand key barriers to Title I effects.

In addition, since most of the existing studies focus only on schools that enroll poor children, comparisons with instruction offered to more advantaged students are limited or impossible. Our sample of schools solves that problem. Since our data also arise from an unbiased random sample of elementary schools in America's most populous and diverse state—rather than just a few schools or classrooms whose representativeness is unknown—we can have more confidence in the representativeness of the results. Finally, the large sample and the extensive data set mean that when differences in instructional practices are observed to be strongly related to student social class, we are able to test alternative explanations.

We begin with a brief account of the milieu from which the California math reforms arose, and then outline our earlier investigation of the extent to which those reforms were actually enacted in classrooms. We turn next to inequality, reporting on the extent to which teachers' beliefs and instructional practices are linked to their students' social class. We then use our model of instructional policy to explain how social-class differences in curriculum and instruction arise. In the final section, we briefly consider how our work might inform efforts to focus Title I more directly on more substantial instruction and stronger student achievement.

RESEARCH AND REFORM

Throughout the 1970's, academic experts and government agencies pressed schools to emphasize basic skills in order to raise low student achievement, particularly in schools enrolling high concentrations of poor students.[4] But policymakers began to move away from these remedies during the 1980s. The Education Department's 1983 report *A Nation At Risk* criticized schools for intellectually lax work, and laid out an agenda calling for more rigorous academic content and more demanding teaching. The report artfully straddled the wars over whether schools should push the "basics" or intellectually more demanding work, by arguing for a version of the latter but referring to it as "the new basics", and avoiding many specifics. These specifics were left to cognitive psychologists, subject-matter specialists, teacher professional organizations, and then to policymakers, who cobbled together the groups' ideas about student learning, challenging instruction and appropriate content, often with little explicit thought about the special needs of high poverty schools.

California's mathematics reform was an early fruit of these efforts. Using cognitive psychologists' ideas about the importance of students' understanding and active learning and mathematics educators' ideas about rooting instruction in the discipline, California's 1985 and 1992 curriculum frameworks outlined major changes for the state's math classrooms. Reformers urged teachers to develop student thinking and reasoning by encouraging classroom discussions about math, and supplying opportunities for extended exploration of mathematical ideas. Teachers were also encouraged to use concrete materials and everyday examples to help students understand new ideas, and to delay teaching algorithms and requiring the memorization

of "basic skills" until students had a firm grasp of the principles underlying them. The mathematics frameworks also emphasized the importance of communication skills, and recommended that students write on their math assignments and tests, and keep math journals. Finally, because some cognitive psychologists saw the construction of knowledge as a social enterprise, reformers encouraged 'groupwork' and cautioned against homogeneous tracking of students. The goal was greater capacity to think mathematically and to succeed in further work in math and science.

Our qualitative fieldwork in the late 1980s and early 1990s found many teachers eager to engage in the beliefs and practices espoused by reformers. But the group also found that teachers' interpretations of reform were shaped by their prior, typically quite limited understanding of mathematics and mathematics instruction, and that in turn limited the actual changes teachers made in the classroom. Further, some reform elements were more popular than others; groupwork and hands-on materials, for instance, were all the rage while extended exploration and discussion of mathematical ideas were less frequent. These differences arose in part because the latter practices require more substantial revision in teachers' pre-existing beliefs and practices, and a more thorough knowledge of, and comfort with, mathematics.[5]

We know of no research on how adoption of the California reforms varied among students of varying social and economic background. Researchers have argued that there is a "Great Divide" in access to quality instruction in the U.S.: students in more affluent schools have more opportunities to develop advanced skills and conceptual understanding, explore challenging content, and exert more control over the development of knowledge. Students in lower-status schools are instead subject to "transmission" styles of instruction, the teaching of discrete "basic skills" and algorithms unrelated to concepts, and more repetition of less challenging content (Allington and McGill-Franzen; Anyon 1981). These styles have been reinforced by the "conventional wisdom" and expert advice regarding education for disadvantaged students offered by Title I and other government programs (see Knapp & Woolverton 1995; Knapp & Turnbull 1990; O'Day and Smith 1991).[6]

But the evidence for these generalizations is not overwhelming. Some scholars, for instance, have described the kinds of instruction available in remedial programs, to students thought to be failing in regular classroom instruction (Allington & McGill-Franzen; Rowan, Guthrie, Lee & Guthrie 1986).[7] But while student social class is clearly *correlated* with placement in such remedial programs, generalizing about social class and schooling from this kind of research would be improper given that the independent variable or "treatment" is students' academic status, rather than their social class. Another major study of instruction in high-poverty classrooms limits what it can say by virtue of the fact that it investigates only selected high-poverty classrooms; there are no affluent schools included in the mix for comparative purposes.[8] Few studies compare instruction and curriculum in schools serving different social classes,[9] and those that do exist are modest in the number of actual classrooms they study. One recent exception to this rule is the work of Raudenbush et al. (1997). Using National Assessment of Educational Progress data, Raudenbush identified a positive association between parents' educational level and the probability their child would encounter a teacher who emphasized mathematical reasoning during instruction.[10]

An alternative view is that instruction for lower-status students is a weaker version of the conventional and routine curriculum and instruction that is offered in most schools. Smith and O'Day (1991), for instance, argue that while basic-skills reforms were originally designed for disadvantaged students, the "back to basics" movement quickly permeated schools nearly everywhere. Gehrke, Knapp and Sirotnik's (1992) review of curricula in three subject areas found little intellectual challenge anywhere, a finding that echoes other research.[11] In fact, the recently completed Third International Mathematics and Science Study found no U.S. examples of classrooms of any sort offering lessons that contained "a high-quality sequence of mathematical ideas."[12]

The Survey and Measures

To gauge teachers' responses to reform across the state, the Michigan State research group conducted a one-time survey of nearly 1,000 second through fifth grade teachers in California in late 1994 and early 1995.[13] The survey inquired about several topics: what teachers thought about mathematics instruction and student learning, and what they actually did in their own classrooms; what kind of curricular materials and manipulatives they relied upon; where they learned about the mathematics reforms, and how much time they spent in those learning opportunities. They were also asked to describe conditions that might affect their own and students' work, including district and school support for the new frameworks, professional interactions with other teachers, and the availability of various resources and parental support. Other research has shown that while teachers tend to over-report the extent to which they have adopted advanced math practices, their relative self-placement on a scale was consistent with the relative placement made by an outside observer.[14]

The measure of student social status is obviously crucial, for the less valid that measure is, the less valid our reports on inequality in access to improved instruction would be. Though the survey asked teachers how many students in their classroom were eligible for Title I (then called Chapter I), nearly one-sixth of the respondents did not answer this question; such non-response would be damaging. Our worries about the measure were compounded by possible inconsistencies between students' Title I status as reported by their teachers and the students' true social class.[15]

To protect against these problems we use another measure for student social status: eligibility for the Free Lunch Program. Using state identification numbers, we linked school records from our survey to the 1994 NCES Common Core of Data file,[16] which provides an estimate of the percent of free-lunch eligible (FLE) students within each school,[17] giving a more accurate picture of student poverty status for each school as a whole. The measure enables us to compare classrooms from schools composed of affluent and disadvantaged students, which should offer at least a rough estimate of Title I-eligible students' access to ambitious classroom instruction.

Examination of family poverty reveals much about the condition of education in California in the early 1990s. In the average elementary school, nearly one-half of the students were designated as free lunch-eligible. Though some schools had very few students designated as free lunch-eligible, more than 10 percent of the schools had very high concentrations of poor students, with 90 percent or more students so designated.

To make the analysis easier to present in cross-tabulations, we broke teachers into three groups, on the basis of the student populations they served. There are between 185 and 195 teachers in each group,[18] which will yield cross-tabulations with adequate case bases.

- **Affluent**: teachers in schools where between 0 and 40 percent of students are free-lunch eligible (FLE);
- **Mixed**: teachers in those in schools where between 40 and 70 percent of students are free-lunch eligible.
- **Disadvantaged**: teachers in schools where more than 70 percent of students were free-lunch eligible.

In the following section, we discuss our probe for differences among these three groups' beliefs about mathematics instruction, and reports of classroom practices.

INSTRUCTIONAL BELIEFS AND PRACTICES

By some measures of reform ideas and practices, there are few differences in this sample between teachers of disadvantaged and more affluent students. For example, teachers endorsed groupwork – and said they practice it in their classroom – in about equal numbers across the three categories of student social background (not shown). In the area of basic skills (Table 1), teachers reported extensive student computational practice and testing, regardless of their students' social class. Teachers' beliefs about the basics did appear statistically different in two of three measures, but the differences were slight. Teachers of lower SES students were marginally less likely to believe students need to acquire the "basics" before being introduced to problem solving, but slightly more likely to say their primary goal was for students to master basic skills. But on at least two major counts, teachers' attitudes toward mathematics instruction did not vary significantly by student social background.

Further, the differences teachers did report were only mildly contrasting interpretations of the reforms' meaning. For instance, teachers of disadvantaged students were slightly *more* enthusiastic about the "everyday context" and "hands-on" ideas that were part of reformers' message. While the belief item "Students learn best when they study mathematics in the context of everyday situations" was not disproportionately endorsed by any of the three groups, the similar belief item (Table 2) "Teaching a mathematical concept should begin with a concrete example or model" was slightly more likely to be supported by teachers of low-income students. Teachers of low-income students also were slightly more likely to use more math manipulatives in their classrooms (Table 3). Thus teachers of low-SES students did not lag behind their suburban peers in enthusiasm for the hands-on aspect of reform. If anything, they outpaced them.

In contrast, however, teachers of low-income students were a bit less likely to see the reforms as an occasion for student discovery and exploring mathematical ideas. They also were more attached to teacher-focused instructional styles. (Table 4).

TABLE 1
TEACHERS' BELIEFS ABOUT BASIC SKILLS BY STUDENT STATUS

Number of teachers who: (row %)		Disagree	Neutral	Agree	Total
Students need to master basic computational facts and skills before they can engage effectively in mathematical problem solving*					
	Affluent	72 (37%)	51 (26%)	75 (38%)	198 (34%)
	Mixed	62 (33%)	57 (31%)	67 (36%)	187 (32%)
	Disadvantaged	90 (47%)	40 (21%)	62.5 (32%)	193 (33%)
	Totals	225 (39%)	148 (25%)	205 (35%)	578 (100)
If elementary students use calculators, they won't learn the mathematics they need to know					
	Affluent	146 (74%)	39 (20%)	14 (7%)	198 (34%)
	Mixed	144 (77%)	29 (16%)	14 (7%)	187 (32%)
	Disadvantaged	127 (66%)	45 (24%)	20 (10%)	192 (33%)
	Totals	416 (72%)	113 (20%)	47 (8%)	577 (100)
In teaching mathematics, my primary goal is to help students master basic computational skills**					
	Affluent	111 (56%)	62 (31%)	24 (12%)	197 (34%)
	Mixed	93 (50%)	74 (40%)	20 (10%)	187 (32%)
	Disadvantaged	102 (53%)	58 (30%)	32 (17%)	193 (33%)
	Totals	307 (53%)	194 (34%)	76 (13%)	577 (100)

* p = .05 in chi-square, **p=.15 in chi-square

TABLE 2
TEACHING WITH CONCRETE EXAMPLES, BY STUDENT SOCIAL CLASS*

Number (row %)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Affluent	6 (3%)	21 (11%)	41 (21%)	53 (27%)	76 (39%)	196% (33%)
Mixed	4 (2%)	7 (4%)	58 (29%)	50 (25%)	79 (40%)	199 (34%)
Disadvantaged	5 (3%)	10 (5%)	45 (24%)	39 (20%)	91 (48%)	190 (33%)
Total	15 (3%)	38 (6%)	144 (25%)	142 (24%)	246 (42%)	585 (100%)

* p=.07 in chi-square

TABLE 3
TEACHERS' USE OF MANIPULATIVES BY STUDENT SOCIAL CLASS*

Number (row %)	Five or fewer manipulatives	Six or more manipulatives	Total
Affluent	117 (59%)	80 (41%)	197 (33%)
Mixed	124 (62%)	75 (38%)	199 (34%)
Disadvantaged	103 (53%)	92 (47%)	195 (33%)
Total	344 (58%)	247 (42%)	592 (100)

*Differences are significant in chi-square at p=.15

TABLE 4
TEACHERS' BELIEFS ABOUT EXPLORATORY INSTRUCTION BY STUDENT SOCIAL CLASS

Number (row %)		Disagree	Neutral	Agree	Total
Teachers should make students figure things out for themselves rather than tell them how to solve a mathematics problem*					
	Affluent	16 (8%)	72 (37%)	107 (55%)	196% (33%)
	Mixed	29 (14%)	47 (24%)	123 (62%)	199 (34%)
	Disadvantaged	23 (12%)	68 (35%)	101 (53%)	192 (33%)
	ALL	68 (12%)	187 (32%)	331 (56%)	586 (100)
Teachers should make sure that students are not confused at the end of a mathematics period					
	Affluent	33 (17%)	67 (34%)	95 (49%)	195 (33%)
	Mixed	35 (18%)	60 (30%)	103 (52%)	199 (34%)
	Disadvantaged	36 (19%)	49 (26%)	107 (56%)	192 (33%)
	ALL	104 (18%)	177 (30)	405 (52)	586 (100)
Students learn mathematics by discussing different approaches, even when some of them are wrong					
	Affluent	2 (1%)	29 (15%)	165 (84%)	197 (33%)
	Mixed	11 (2%)	24 (12%)	164 (83%)	199 (34%)
	Disadvantaged	6 (3%)	22 (12%)	163 (85%)	192 (33%)
	ALL	20 (3%)	75 (13%)	492.91 (84%)	588 (100%)

* p=.02 in a chi-square

A handful, perhaps twenty more teachers who work in affluent and mixed schools, were inclined to believe students should figure math relationships out for themselves. Teachers of disadvantaged students were slightly more likely to believe their role included making sure students are not mathematically confused at the end of class.

The survey also inquired into teachers' use of strategies designed to promote student exploration, discussion, and conceptual development (Table 5). Teachers of affluent students were more likely than those in mixed-SES schools to report that they often had students explore different ways to solve problems. These teachers also were more likely to report that they offered opportunities for students to work on projects for more than one day. Reformers recommend such activities, believing that extended investigations can help students develop mathematical knowledge. Teachers of affluent students also reported that they more often offered students problems with more than one correct answer.[19]

The impression that teachers' interpretations of reform differs by their students' social class is strengthened by inspecting the belief and practice items that relate to student writing (Table 6). Having students write about mathematics was intended to serve a number of purposes, including providing them the opportunity to make and support mathematical arguments. It was also intended to allow teachers to examine a student's line of reasoning, with an eye toward offering solutions when there is a misunderstanding. The differences on the belief item about student writing – "Students should write about how they solve mathematics problems" – are relatively small, with teachers in more affluent communities agreeing with the statement only slightly more often. But when actually putting this into practice, teachers in affluent schools far outdid those in poorer schools. About 50 percent of affluent teachers had their students write about how to solve problems once a week or more, while 21 percent of teachers had their students write only a few times a year.

Among teachers of disadvantaged students, this trend reversed: only about 29 percent had their students write at least once a week, while 35 percent had their students write a few times a year at most. Differences of the same magnitude and direction appeared in teachers' reports on whether their students wrote in math journals.

In summary, then, teachers of all students, regardless of class and poverty status, were likely to endorse and practice many of the reformers' major ideas, including using hands-on activities and having students work in groups rather than individually. But teachers everywhere are still fond of basic skills and more traditional math instruction. In fact, most teachers who responded to the survey appeared to interpret the reforms as only modest changes in students' mathematics activities. Earlier fieldwork revealed that such changes can be easily grafted onto existing practice, and in many cases seemed quite traditional.[20]

However, our most significant result shows significant differences. Perhaps ten percent of the teachers offered more rich and effective math instruction, by using new curricula and including students in the development and communication of their own mathematical ideas, among other things. These teachers were more likely to teach in wealthier suburbs than high-poverty schools. These differences are troubling, since these differences in teachers' interpretations and classroom enactment of reform have an impact on actual outcomes for students.

In a previous paper (Cohen & Hill 1998) we constructed survey measures of "average" mathematical instructional practices and curriculum use in our roughly 250 schools,[21] and linked these to school outcomes on 1994 California Learning Assessment System (CLAS) data, in hope of establishing a relationship among policy, teacher practice and student performance. Results from this analysis[22] show clearly that student social status is still the foremost predictor of school performance. A school with *no* students eligible for free lunch scores in the neighborhood of one and a third points higher on the five-point CLAS scale than a school in which *all* students are eligible for free lunch, a large effect of just under three standard deviations of that dependent measure.[23] But reformed instructional practices also matter. A school whose teachers averaged a "4" on this scale fared about fifteen hundredths of a point better than a school whose teachers averaged a "3". Though less powerful than social status, this is about a third of a standard deviation of the CLAS performance level.[24]

TABLE 5
TEACHERS' REPORTS OF INSTRUCTIONAL PRACTICES BY STUDENT SOCIAL CLASS

"...how often do students in your class take part in the following activities during mathematics instruction? (row %)		Never/Few times a year	Once or twice/ month	Once or twice/week or more	Total
Make conjectures and explore possible methods to solve a math problem*					
	Affluent	6 (3%)	37 (19%)	152 (78%)	196 (34%)
	Mixed	16 (8%)	45 (23%)	137 (69%)	199 (34%)
	Disadvantaged	25 (13%)	25 (13%)	138 (74%)	188 (32%)
	ALL	47 (8%)	107 (18%)	428 (73)	582 (100)
Discuss different ways to solve problems**					
	Affluent	5 (3%)	24 (12%)	166 (85%)	195 (33%)
	Mixed	14 (7%)	37 (19%)	147 (74%)	198 (34%)
	Disadvantaged	15 (8%)	25 (13%)	151 (79%)	191 (33%)
	ALL	34 (6%)	86 (15%)	464 (79%)	584 (100)
Work on individual projects that take several days*					
	Affluent	94 (48%)	73 (38%)	28 (14%)	195 (33%)
	Mixed	129 (65%)	46 (23%)	24 (12%)	199 (34%)
	Disadvantaged	130 (67%)	37 (19%)	26 (14%)	194 (33%)
	ALL	353 (60%)	157 (27%)	78 (13%)	588 (100)
Work on group investigations that take several days*					
	Affluent	103 (53%)	71 (36%)	21 (11%)	196 (33%)
	Mixed	129 (65%)	44 (22%)	26 (13%)	199 (34%)
	Disadvantaged	129 (67%)	39 (20%)	25 (13%)	193 (33%)
	ALL	362 (62%)	154 (26%)	72 (12%)	587 (100)
Do problems that have more than one correct solution *					
	Affluent	31 (16%)	62 (31%)	103 (53%)	197 (33%)
	Mixed	44 (22%)	77 (39%)	78 (39%)	199 (34%)
	Disadvantaged	54 (28%)	56 (29%)	86 (43%)	192 (33%)
	ALL	130 (22%)	195 (33%)	263 (45%)	588 (100%)

* indicates p<.01 in a chi-square; ** indicates p<.05 in a chi-square

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TABLE 6
TEACHERS' REPORTS OF STUDENTS WRITING BY STUDENT SOCIAL CLASS

Number (row %)		Never/Few times a year	Once or twice/ month	Once or twice/week or more	Total
Write about how to solve a problem in an assignment or test*					
	Affluent	41 (21%)	58 (30%)	97 (50%)	196 (33%)
	Mixed	57 (29%)	73 (37%)	68 (34%)	199 (34%)
	Disadvantaged	68 (35%)	68 (35%)	56 (29%)	188 (32%)
	ALL	166 (28%)	199 (34%)	222 (38%)	586 (100)

*Difference significant at p<.001

TABLE 7
TEACHERS' REPORTS OF WHETHER STUDENTS WRITE IN MATH JOURNALS BY STUDENT SOCIAL CLASS

Number reporting that their students write in math journals (row %)*	Yes	No	Total
Affluent	102 (52%)	97 (48%)	197 (33%)
Mixed	73 (37%)	126 (63%)	199 (34%)
Disadvantaged	93 (48%)	102 (52%)	195 (33%)
Total	268 (45%)	323 (55%)	591 (100)

*Difference significant at p<.05

In comparison to student social class, which is still the overwhelming predictor of school test performance, policy instruments appear to be weak interventions. Yet the student social-status measures summarize a lifetime of inequalities and their effects in earlier grades, whereas the measures of curriculum and teacher learning only address a single year in students' school lives. Benefits of strong instructional interventions might cumulate over many years of schooling.

School conditions, as reported by teachers, also had an impact on student performance. These factors included parental support of instruction, student turnover rates, and the maintenance of school facilities. We turned the three items into a scale and included that in the prediction of student performance. Better school conditions (i.e. less turnover, more parental support) were associated with higher school average CLAS scores. This is especially significant, for school conditions and student free-lunch status are far from identical: the overall correlation was .64. Despite enrolling a population of nearly all disadvantaged students, some schools report average or above-average school conditions, and high-poverty schools that do have such negative conditions also have slightly higher student performance.

EXPLAINING THE DIFFERENCES

We have shown that there were modest student social class differences in teachers' beliefs about math instructions, but that there were more significant student social class differences in teachers' reports of teaching practice. Most importantly, we have shown that the small fraction of teachers who actually offered a significantly richer math curriculum (as viewed by reformers) were more likely to teach in schools enrolling students from more affluent communities. To account for these differences among students' opportunities to learn, we examine several hypotheses arising from earlier research and our own survey analysis.

Teachers' familiarity with reform ideas. One explanation focuses on what teachers knew about reform: perhaps teachers of disadvantaged students practiced as they did because of the way they "read" reform and interpreted its meaning. The survey contained a set of items that helped us understand what teachers thought reformers wanted. Teachers were asked to identify both the statements that were "core ideas" of the frameworks and those that were not. Most teachers correctly identified more than three-quarters of the statements. Further, there were few differences among teachers in richer or poorer schools on items like "all students should have a challenging ... mathematics curriculum," "students learn from one another when they work together" and "topics such as probability and geometry need to be included in the elementary mathematics curriculum."

But differences among teachers by their students' poverty status did appear on a subset of items that tapped highly salient teaching practices. Seventy-seven percent of teachers of disadvantaged students identified the item "A mathematical idea is best learned if a student is first exposed to a concrete example" as part of the frameworks, as compared with only 59 percent of teachers who worked in upper-SES schools.

Teachers in high-poverty schools were thus more likely to view the "hands-on" part of reformers' message as quite salient, but less likely to recognize that "...writing about mathematics should be a regular part of mathematics instruction" was a critical dimension of the frameworks. While 94 percent of the teachers in "affluent" schools identified this idea as part of the standards, 85 percent of those in "disadvantaged" schools did so. This follows the pattern we found in the belief and practice items. Teachers in high-poverty schools were also more likely to think the four 'traditional' statements in Table 8 were included in the reforms while teachers in more affluent schools, and many reformers, would take the contrary view. These differences are again modest, but align well with the findings from belief and practice above.

One explanation for this result is that the differences are not due to a lack of will to change among teachers in high-poverty schools, but to their lack of familiarity with parts of reformers' message. For instance, perhaps the first two items in Table 8—and the neglect of student exploration and discussion strategies that they imply—result from a lack of knowledge that these things—student exploration and discussion—belong in the reforms. If so, teachers' lack of opportunities to learn about the reforms might be the culprit.

Opportunities to learn. We examine the distribution of how teachers' opportunities to learn differ by their students' social class, in order to shed some light on whether teachers' learning shapes their interpretation of reform. Reformers opened various avenues for teacher learning about reform. One directly provided by the state was its reform documents, the California Mathematics Frameworks. An item on the survey asked teachers whether these were available to them and if so, whether they used them. The documents were equally available to teachers by student social class, which does not support the idea that differential access to reform documents would help explain teachers' interpretation of reform (Table 9).[25]

Teachers across our three groups also reported roughly the same opportunities to learn about the CLAS in the years preceding and during its administration in 1993-94. The formats for learning were diverse: teachers piloted the test, some helped score it, and others heard about it in state or district assessment workshops. All of these activities exposed teachers to the kinds of mathematics learning encouraged in the California Frameworks. Analysis of this data shows teachers who grasped these opportunities to learn actually changed their practice.

A second type of learning opportunity that might shape teachers' perceptions of reform was other kinds of professional development. During this period, many of California's professional development providers keyed their offerings to themes from the state's frameworks. Roughly three-quarters of teachers said that they had had opportunities to attend professional development about the new mathematics standards. These opportunities were distributed somewhat unequally across the three groups of teachers (Table 10).

TABLE 8
PERCENT OF TEACHERS IDENTIFYING ITEM AS "CORE IDEA" OF MATHEMATICS STANDARDS

	Affluent	Mixed	Disadvantaged
Whenever students ask how to solve a mathematical problem, teachers should provide a thorough explanation.*	12.5	20.5	22.8
Teachers should clearly explain to students how to solve a particular kind of problem they have never seen before.**	17.3	22.0	25.3
Students should demonstrate mastery of a particular mathematics concept before proceeding to the next concept.*	9.9	25.1	19.5
Students should work individually in mathematics to ensure they master the skills and are able to work on their own.**	18.5	11.2	20.0

* Differences were significant in a chi-square at $p<.05$

**Differences were significant in a chi-square at $P<.15$

TABLE 9
TEACHER REPORTS OF HAVING A PERSONAL COPY OF FRAMEWORK BY STUDENT SOCIAL CLASS

Number (Row %)	N/A	Available	Don't know	Total
Affluent	51 (26%)	137 (24%)	8 (4%)	197 (34%)
Mixed	29 (26%)	131 (23%)	7 (4%)	187 (32%)
Disadvantaged	53 (27%)	126 (22%)	16 (8%)	194 (34%)
Total	153 (26%)	394 (68%)	31 (5%)	578 (100%)

TABLE 10
TEACHERS' REPORTS OF PROFESSIONAL DEVELOPMENT BY STUDENT SOCIAL CLASS*

Number (row %)	No Prof'l Development about new math standards	Prof'l Development about the new math standards	Total
Affluent	35 (18 %)	163 (82%)	197 (33%)
Mixed	49 (25%)	150 (75%)	199 (34%)
Disadvantaged	55 (28%)	140 (72%)	195 (33%)
Total	139 (23%)	453 (77%)	592 (100%)

* $p<.05$ in a chi-square

Teachers of affluent students had more opportunities to learn about the frameworks. Yet this effect is modest, and simply observing that teachers of affluent students had more opportunities to learn does not explain the patterns we found. This general question provides no sense of the content of the learning opportunities and why they might encourage some teachers to view math reforms as more than just hands-on work with manipulatives.

More specific data on teachers' opportunities to learn help with this problem. We asked teachers whether, in the year before the survey, they had attended one of five different kinds of workshops that might familiarize them with the Frameworks, and if they had, how long they attended. These opportunities to learn took on two forms. In one group, which we term "special topics," teachers did attend a workshop and took home some mathematics activities. But they did so as part of larger projects that focused on classroom management techniques (cooperative grouping), involving parents in students' mathematical work (family math), or increasing race and gender equality in math (EQUALS). While these workshops did supply mathematical activities for students, they did not deeply investigate student learning, mathematical instruction, or mathematics itself – and teachers were unlikely to leave with any kind of coherent curriculum to take back to their classroom. Our previous work with this survey found that this sort of professional development was not associated with greater teacher engagement with novel beliefs and instructional practices, nor was it associated with less attachment to traditional mathematics. Further, these workshops were not related to increases in student performance on the fourth grade CLAS.

In contrast, the Marilyn Burns approach and mathematics replacement unit workshops actually focused teachers on student curriculum. Marilyn Burns Institutes are offered by experienced trainers and are focused on teaching specific math topics. Some focus on "replacement units" that she has developed. In some cases, teachers who attended these workshops one summer were able to return the next summer and continue. The "replacement units" are curriculum modules designed to be consistent with the reforms that center on specific topics, like fractions, or sets of topics. Unit authors devised these units to be coherent and comprehensive in their exploration of mathematical topics – to replace an entire unit in traditional mathematics texts, rather than just add in activities to existing curricula – and to support teacher as well as student learning. Teachers who attended replacement unit workshops worked through the units themselves, heard about how students responded to the units, and often had a chance to return to the workshops during the school year to debrief and discuss how the unit worked in their classrooms. These workshops not only increased teacher engagement with novel practices, but also helped teachers rely less on traditional mathematics instruction. Those changes paid off in student achievement: schools where teachers attended these workshops, revised their instructional practices, and used replacement units did better on the fourth grade CLAS than schools where teachers did not do these things.

TABLE 11
TEACHERS' OPPORTUNITIES TO LEARN BY STUDENT SOCIAL CLASS

Which of the following mathematics-related activities have you participated in during the past year and approximately *how much total time* did you spend in each? (e.g., if four 2-hour meetings, circle 2 -- "1 day or less").**	None	1 day or less	2-6 days	1-2 weeks	MT 2 weeks
Special Topics					
EQUALS	96.5	2.4	.9	.2	0
Family Math	81.7	12.9	4.3	.8	.3
Cooperative Learning	54.5	28.9	13.7	1.8	1.1
Student Curriculum					
Marilyn Burns	83.2	9.8	5.3	1.3	.3
Mathematics Replacement Units	58.9	22.7	14.2	1.7	2.5

*Numbers are percentages of respondents selecting that category, weighted to represent statewide population.

**Missing data assumed to be "none."

Teachers of different social classes reported unequal attendance at these workshops (Tables 12 and 13). Teachers of low-income students disproportionately attended cooperative learning, EQUALS, and Family Math professional development (Special Topics), while teachers of affluent students were more likely to have attended Marilyn Burns Institutes and replacement unit workshops (Student Curriculum). These differences extend to teachers' reported use of replacement units; teachers of affluent students reported using these framework-aligned curriculum resources at much higher rates than teachers in the other two groups (Table 14). And teachers of affluent students were also less likely to rely on traditional mathematics textbooks – many of which were quite conservative during this period – for their everyday instruction (Table 15). These patterns may explain the differences discussed earlier, in teachers' interpretation of the frameworks: teachers of affluent and poor students had slightly different means for learning what the new state standards entailed for their everyday practice. One set of professional development opportunities, which were disproportionately used by teachers of poor students, "taught" the frameworks by focusing on diversity and classroom-management issues and using discrete mathematical activities as the stuff from which everyday practice would be made. Another set of professional development opportunities, which were more often used by teachers of more affluent students, "taught" the frameworks by focusing on understanding student learning, mathematics, and mathematics instruction. In contrast to the activities more often used by teachers in poor schools, these offered teachers opportunities to learn a student curriculum that would support teachers' attempts to foster mathematical thinking and reasoning through extended-day investigations, student writing, and discussion. This was much closer to the ideas that reformers were promoting.

TABLE 12
TEACHERS' REPORTS OF ATTENDING "SPECIAL TOPICS WORKSHOPS" BY STUDENT SOCIAL CLASS*

Number (Row %)	Did not attend	Attended	Total
Affluent	109 (55%)	88 (45%)	197 (33%)
Mixed	105 (53%)	94 (47%)	199 (34%)
Disadvantaged	78 (40%)	117 (60%)	195 (33%)
Total	292 (49%)	300 (51%)	592 (100%)

* differences significant at p<.001 in a chi-square

TABLE 13
TEACHERS' REPORTS OF ATTENDING "STUDENT CURRICULUM WORKSHOPS" BY STUDENT SOCIAL CLASS *

Number (Row %)	Did not attend	Attended	Total
Affluent	89 (45%)	109 (55%)	197 (33%)
Mixed	112 (56%)	87 (44%)	199 (34%)
Disadvantaged	118 (60%)	77 (40%)	195 (33%)
Total	292 (49%)	300 (51%)	592 (100%)

* differences significant at p<.01 in a chi-square

TABLE 14
TEACHERS' REPORTS OF USING REPLACEMENT UNITS BY STUDENT SOCIAL CLASS *

Number (Row %)	Used none	Used one	Used MT one	Total
Affluent	100 (51%)	51 (26%)	46 (23%)	197 (33%)
Mixed	134 (67%)	36 (18%)	29 (14%)	199 (34%)
Disadvantaged	118 (61%)	48 (25%)	28 (14%)	195 (33%)
Total	352 (60%)	136 (23%)	103 (17%)	592 (100%)

* differences significant at p<.001 in a chi-square

TABLE 15
TEACHERS' REPORTS OF TEXT USE BY STUDENT SOCIAL CLASS *

Q: Which statement best describes your use of a mathematics textbook?

Number (Row %)	Main resource	Use others equal to using text	Mainly use resources other than the text	Do not use a textbook	Total
Affluent	61 (32%)	62 (33%)	51 (27%)	15 (8%)	189 (34%)
Mixed	54 (30%)	66 (36%)	36 (20%)	27 (15%)	182 (33%)
Disadvantaged	53 (29%)	94 (51%)	29 (15%)	9 (5%)	185 (33%)
Total	169 (30%)	223 (40%)	115 (21%)	50 (9%)	556 (100%)

* differences significant at p<.001 in a chi-square

We created a "framework practice" scale of instructional practices and student writing, plus information on whether teachers had students work in small groups.[26] The underlying construct, we argue, is teachers' employment of reform practices. This scale's mean is 3.26, its standard deviation is .72, and its reliability is .85. This measure is significantly and negatively related to the free lunch level. Alone, the "percent FLE" measure picks up a coefficient of -.35 (standard error = .10) and is significant at p <.01 (Appendix 2 regression 1). Thus, a teacher in school with no free lunch-eligible (FLE) students scores about half a standard deviation higher on the "framework practice" measure than a teacher in a school with all-FLE students.

If differences in teachers' opportunities to learn are in fact driving the differences we found, entering measures for those opportunities to learn (and resultant curriculum use) should decrease the coefficient on "percent FLE." It does, reducing the coefficient on this measure to .23, a level that is significant at p=.01.[27] Entering the item that measures teacher textbook use further drops the coefficient to -.20, or about two-thirds its original size (Table Appendix 2 regression 3). The drop is about a fifth of a standard deviation in the dependent measure "framework practice." Thus teacher training and course materials can help offset the negative effects of concentrated poverty.

Teachers' Mathematical Knowledge Advocates for the improvement of mathematics instruction note that it cannot happen unless teachers learn more about the mathematics their students work on. Lacking knowledge about such things as the ways "sharing" problems are related to division, teachers cannot respond constructively to student suggestions, encourage and guide mathematical discussion, or stray far from conventional mathematical texts (see articles in Brophy 1991).

The survey contained several ways to measure teachers' mathematical background. On the most conventional of these, teachers' reports of mathematics coursework and mathematics teaching coursework, no differences appeared. But the survey also included two multiple-choice questions which probed teachers' mathematical knowledge. Both questions probed teachers' knowledge of fractions.[28]

Overall, teachers did not fare very well on either item. Only eight percent answered both items correctly (Table 16). Twenty-seven percent answered both incorrectly. Sixty-five percent answered one correctly and one incorrectly. The table also shows that teachers in high-poverty schools were half as likely to get both questions right, and more likely to get both wrong.

We have no way to know whether these differences resulted from differences in curriculum use and teachers' opportunities to learn or whether the differences existed earlier. If teachers' mathematical knowledge and skills were different before the reforms, it would suggest teachers might have selected an interpretation of the reforms that aligned well with their mathematical knowledge. Teachers who were less comfortable with the math may have elected, consciously or not, to view the reforms as more about hands-on activities than about student thinking about big mathematical ideas. On the other hand, differences in teachers' knowledge of the student mathematics might have resulted from their workshop experiences, or from their experiences with the new student curriculum. In any case, a variable representing how a teacher fared on these two items was not a significant predictor of their practices in implementing the state math frameworks. (see Appendix table A-2, regression 4).

CONCLUSION

Our results have implications for efforts to improve the quality of education in high-poverty schools. First, teachers' responses to our survey indicate that most California students experienced the state's instructional reforms as an increase in hands-on, "real-life" math problems and groupwork. This pattern in the interpretation of reform is consistent with much research on the implementation of instructional innovations. What was unusual about California is that the math reform also offered some students opportunities to probe mathematical ideas more deeply. That version of the instructional policy occurred much less often, but it did occur.

Second, we found that the relations between social class and versions of the state instructional reform varied with the version of reform. We found few social class differences in students' access to hands-on, real-life math problems and groupwork -- what most would regard as the more superficial interpretation of the reforms. But the more intensive and uncommon responses to the state reform were somewhat more likely to occur in schools that served affluent students.

Third, though our research shows that teachers and students in high-poverty schools had fewer of the resources that enabled teachers to respond more intensively to the state reforms, these social class differences were neither huge nor simple. The largest differences in access to the California math reforms were not blanket inequalities

TABLE 16
TEACHERS' ANSWERS TO MATHEMATICS PROBLEMS BY STUDENT SOCIAL CLASS**

Number (Row %)	Zero correct	One correct	Two correct	Total
Affluent	41 (21%)	136 (69%)	21 (11%)	197 (33%)
Mixed	61 (30%)	124 (62%)	15 (7%)	199 (34%)
Disadvantaged	58 (30%)	127 (65%)	11 (5%)	195 (33%)
Total	159 (27%)	386 (65%)	46 (8%)	592 (100%)

**Difference is significant at p<.15

between well-to-do and poor communities. Rather they were differences between the quality of education available to a small minority of students whose teachers had unusually rich and coherent professional learning opportunities, and on the other hand, the overwhelming majority—both affluent and poor—whose teachers did not have such opportunities.

We presume that causality is not simply a matter of what providers offer, though we have no direct evidence on the point. Apart from what is offered, it seems likely that many professionals in poor urban and rural schools would be attracted to the curricula and professional development opportunities that seemed to fit their conceptions of their own and their students' needs. Teachers who work in disorderly schools and struggle with classroom management issues, or the administrators who supervise them, may be attracted to instructional approaches and curricula that deal with those issues, focusing less on academic skills and knowledge. Teachers who care about gender and racial problems are likely to be attracted to professional development opportunities that focus on these issues.

Fourth, these small inequalities in teachers' opportunities to learn tended to exacerbate pre-existing inequalities in schools. Schools in which teachers had access to extended and curriculum-centered opportunities to learn posted better student performance on a test designed to capture understanding of mathematical ideas. While not unprecedented (see Wiley & Yoon 1995; Brown, Smith & Stein 1995; Carpenter, Fennema & Peterson 1989)[29] these results are certainly unusual. They suggest that if our analysis is correct, when educational reform is focused on learning and teaching academic content, and when professional development curriculum for improving teaching overlaps with curriculum and assessment for students, teaching practice and student performance are likely to improve. Under such circumstances educational policy is an instrument for improving teaching and learning. Yet when policy fostered real improvements in student outcomes it tended to occur in higher-SES schools.

These research results lead us to several comments on improving Title I and other government programs that seek to boost performance for disadvantaged students. One concerns the way federal, state, and local school agencies set priorities for professional education in high-poverty schools: do they permit or encourage professional learning opportunities on issues that are tangential to academic instruction, while agencies serving more affluent schools focus on issues that are more central to academic instruction? Since the survey on which we reported shows such a pattern in the nation's most populous and racially diverse state, it may well occur elsewhere. We have no quarrel with attention to problems of diversity, classroom management, and gender, but when such things come at the expense of academic elements of instructional improvement, as it often appeared to in California, it is troublesome. It is especially troublesome when we recall that many teachers have no more than two to four days of publicly-funded professional development per year.

A second comment concerns efforts to improve teachers' and students' performance in high-poverty schools. We found such improvement in schools of all sorts when three conditions were met. One was that teachers' opportunities to learn were rooted in student subject-matter curriculum, and in better knowledge, from assessments or elsewhere, of students' thinking about mathematics. A second was that teachers were working within a set of consistent relationships among the instruments or agents of instructional policy, which included assessments, curriculum, and opportunities for professional learning. A third was the presence of incentives, arising within instruction, for teachers to take advantage of those learning opportunities and consistencies.

In California, these opportunities, consistencies, and incentives were created by agencies that "taught" teachers about the new math frameworks, by the curricula teachers used, and by teachers' use of these materials and opportunities. These things influenced teachers' interpretation of the reform, and were reflected in their practice. Those practices, in turn, were linked to higher school average student scores on a 1994 state math assessment that was designed to measure student reasoning, communication, and problem solving, along with computation and other more conventional skills and knowledge. We find this evidence entirely credible, in part because it is supported by so much related research on instruction, student performance, and professional learning.

A third comment concerns the applications of this research, in efforts to improve teachers' and students' performance in Title I and other programs serving disadvanted youth. It seems reasonable to infer from our findings that the programs should be redesigned so that teachers have the learning opportunities, consistencies, and incentives that we described. Though we think that such inferences are on the mark, such reworking of the program would not be easy. One reason, evident in our analysis of the California reform, is that the delivered content of the state policy was only partly a direct result of the policy itself. When the California math reforms did result in appreciable changes in practice, it was partly because various intermediary people, networks, and

agencies contributed to that result. Many of those people, networks, and agencies operated outside government, in "markets" for curriculum and professional development, while others worked in county or local districts, or elsewhere in the public and private territory between policy and practice. These agencies, individuals, and networks created curricula, classroom activities, temporary communities of practitioners concerned with improving instruction, and opportunities for professionals to learn about students' mathematical work and ideas. One moral of this story is that to change programs like Title I involves changing not only the program itself, but changing a complex set of public and private agencies that are entangled with the program in many different ways. They might support change if they were suitably encouraged to do so, but they will not necessarily change just because policy does so. A good deal more than policy is required to change the organizational environment that helps to shape effective or ineffective work. Changing official policy is only one modest part of changing enacted policy.[30]

Another reason why redesigning programs like Title I so that they support improved performance from teachers and students will be difficult is that though the three conditions mentioned just above are all about education for professionals and students, these were not the design features around which Title I was built. Quite the contrary, the program's design rests on the broad distribution of funds to a huge fraction of U.S. school districts, and the assumption—or hope—that states and localities will use relatively conventional educational resources (like more money, teachers, or basic-skills instruction) to improve teaching and learning. The great virtue of this arrangement is that it created broad political and professional support for a program whose purpose was at least partly to benefit poor children. Title I has endured through many political challenges because it has such a broad constituency in and out of Congress.

But that same political design also built into Title I profound disincentives for states and localities to focus sharply and relentlessly on matters of better academic content and student performance. For the program's design has created a virtual state and local entitlement to Title I funds: while that has helped the program endure, it has also impeded efforts to use the program to improve instruction and learning. The current challenge for Title I and other such programs thus is not only to find ways to rework the program so that teachers have the sorts of opportunities to learn and incentives that we have described, but also to do so in ways that will maintain the broad political support that has so remarkably characterized this program for more than three decades.

That will be difficult. One reason, as we just wrote, is that the program's political design inhibits a focus on effectiveness. Another is that even with the near-entitlement status of the program, political support for Title I has begun to erode in the last decade. Growing hostility to government social programs is part of the cause, but another is the lack of persuasive evidence that this social program has been effective in improving either instruction or student performance.[31] Title I has not invested effectively in research that would enable it either to use evidence to improve its own effectiveness or to generate more persuasive evidence on its effects and effectiveness.

If programs like Title I are to focus more effectively on improved teaching and learning, better research and evaluation must become a more central component of the program's design, and this research and evaluation should be focused on program improvement. One reason is purely instrumental: without sophisticated and dispassionate research, no one will learn enough about program operations and effects to significantly improve them. The California math reforms crashed in flames partly because reformers in state government and professional associations were content to prescribe for other peoples' children without investigating either how their prescriptions played out in professional practice or how they affected real students. When opponents raised questions about the reforms or attacked them, state and professional officials thus had only doctrine and political influence with which to defend their ideas. They were unable either to answer any of the claims that critics made, or to make adjustments in the policy that might have improved it, so they jettisoned the reforms.

Another reason that more and better research will be crucial to program improvement is both instrumental and political: without sustained, high-quality research on the impact of such programs, they will be increasingly difficult to defend in public discourse and political decisions. And still another reason is political in a broader sense: better research might help to create constituencies for greater effectiveness, despite Title I's near-entitlement status. Experience with the Congressional Budget Office and some other agencies seems to show that in some areas, in some periods, traditions of high-quality research have grown up, appreciably reduced partisanship, and thus created areas of more neutral political ground. Partisans sometimes welcome the opportunity to be let off their self-created hooks. The existence of such neutral ground then can enable political partisans to more wisely use evidence to inform political decisions.

In the case of Title I and similar programs, high-

quality evidence of effectiveness also could help focus and mobilize support for improvement. For if research could produce better evidence on the effect of Title I on teaching and learning, it could enlarge opportunities to use this evidence to improve the program. And such improvement could in turn enlarge support for the program. Evidence that some approaches worked better than others would suggest both that the Title I program could work, and the ways in which it could work better. Such evidence could help mobilize support both for the process of improvement and for the program.

Though we think that efforts of this sort are worth arguing for, we recognize that they would not be easy to organize or sustain. The research would have to be of very high quality, and would have to be carried out by nonpartisan professionals in agencies that commanded broad respect. The would be difficult to arrange at any time, and perhaps more so in the current more partisan political climate. It also would be costly, and sometimes controversial. Most important, social science is no silver bullet. Such research and evaluation would not be useful unless, after meeting the conditions just sketched, it also was used by professionals at all levels of government, and in public and private agencies. That would require professional courage and commitment to use this knowledge to change one's own work, and to focus more effectively on better performance for students. And that courage would be unlikely to flourish if politicians had the courage to support such work and to use better research to guide their decisions about resource allocation and program direction.

But if better knowledge is no magic wand, it is a crucial ingredient in improving programs like Title I. For lacking better and more valid knowledge, political and ideological controversy about the program is likely to grow, and support for such programs is likely to further erode. The politics of more generous social policy needs to be opened up to include better knowledge about the effects of efforts to realize generous intentions. If better knowledge is neither an instant nor a solo salvation, it is one crucial ingredient in efforts to make programs like Title I more effective for children.

NOTES

[1] Dow, P. B. (1991). *Schoolhouse politics: Lessons from the Sputnik Era.* Cambridge: Harvard University Press. Tyack, Cuban, Larry. (1993) *How teachers taught : constancy and change in American classrooms, 1890-1990.* New York : Teachers College Press.

[2] The survey was designed by Ball, Cohen, Peterson and Wilson, in partnership with Dr. Joan Talbert at Stanford University's Graduate School of Education -- and carried out by Dr. Talbert (see Appendix B for a summary of the sampling frame). We owe many thanks to Deborah Ball, Penelope Peterson, Joan Talbert, and Suzanne Wilson, for help at many points, and are especially indebted to Dr. Talbert. The survey was supported by the National Science Foundation (Grant # ESI-9153834). The group selected a stratified random sample to represent the population of second through fifth grade teachers in California, and administered the survey in the Fall and Winter of the 1994-95 school year.

[3] Cohen, D.K. and Hill, H.C. (1998) "Instructional Policy and Classroom Performance: The Mathematics Reform in California." Unpublished manuscript, Ann Arbor, University of Michigan.

[4] Smith, M. S. and O'Day, J. "Equality in Education: Progress, Problems and Possibilities." CPRE Policy Brief June 1991.

[5] See articles in the Fall 1990 Educational Evaluation and Policy Analysis, and also in Brophy, J. (ed) (1991) Advances in Research on Teaching Vol II: Teachers' Knowledge of Subject Matter as it Relates to their Teaching Practice. Greenwich, CT: JAI Press.

[6] Knapp M. S. & Woolverton, S. (1995) "Social Class and Schooling" in Handbook of Research on Multicultural Education, J.A. Banks and C.M Banks, eds. New YorK: MacMillan pp 548-569; Knapp, M. S. and Turnbull, B. J. (1990) Better Schooling for the Children of Poverty: Alternatives to Conventional Wisdom. Menlo Park: Policy Studies Associates. O'Day, J. A. and Smith, M. S. (1993) "Systemic Reform and Educational Opportunity" in *Designing Coherent Education Policy*, Susan H. Fuhrman ed. San Francisco: Jossey-Bass p. 250-311.

[7] Rowan, B. Guthrie, L.F., Lee, G. V. and Guthrie, G. P. (1986) "The Design and Implementation of Chapter I Instructional Services." San Francisco: Far West Laboratory.

[8] See above, Knapp, Shields, and Turnbull (1995).

[9] We count three: Anyon (1981) "Social class and school knowledge" in *Curriculum Inquiry* 11(1) 3-42. Wilcox, K (1982) Differential socialization in the classroom: Implications for equal opportunity. In G. Spindler (ed) *Doing the ethnography of schooling: Educational Anthropology in action* (p. 268-309). New York: Holt, Rinehart, and Winston; and Metz..... Evidence presented in Peter Ramsay's el al response to Anyon (Curriculum Inquiry 13:295-

319) also tends to dispute these claims; in a sample of 30 elementary schools in New Zealand, Ramsay et al. found considerable variation among working class schools.

[10] Raudenbush, S. W. Fotiu, Randall P. Cheong, Y. F. "Inequality of Access to Educational Opportunity: A National Report card for Eighth Grade Math." Unpublished manuscript, University of Michigan 1998.

[11] Gehrke , Knapp & Sirotnik (1992). In search of the school curriculum. In G. Grant (ed) Review of Research in Education (18: 51-110). Washington DC.

[12] *Pursuing Excellence: A Study of US Eighth-Grade Mathematics and Science Teaching, Learning, Curriculum, and Achievement in International Context* (1996). Washington DC: US DoEd.

[13] To increase efficiency, schools and teachers in larger urban districts were undersampled while their peers in small districts were oversampled. The use of both population and non-response weights return the sample to an accurate reflection of conditions within the state, and these weights are used here. Repeated follow-ups and a small incentive for survey participants increased the response rate to 61 percent.

[14] Mayer, D. P. (1997) New Teaching Standards and Old Tests: Dangerous Mismatch? Unpublished doctoral dissertation, Harvard University, Cambridge.

[15] Schools' eligibility for Title I monies is far from perfectly correlated with students' poverty, since local districts may use several different criteria in assigning schools to the program. In addition, the adoption of whole-school programs might mean that teachers in high-poverty schools had no students formally classified as Title I. A final weakness in the survey measure was that there were no other questions about Title I program characteristics, such as subject matter covered, or pull-outs vs. in-class instruction; hence the measure could not be redeemed by using it in association with other data from the survey which would expose the interplay between Title I and the state's mathematics reforms.

[16] http://nces.ed.gov/ccd/ccddata.html.

[17] During the 1993-94 school year, a child from a four-person family with an annual income of $18,660 or less was eligible.

[18] The exact number varies due to missing data.

[19] Teachers originally had five response options to choose from: never, a few times a year, once or twice a month, once or twice a week, almost daily. To make this table easier to read, we collapsed the options at the ends.

[20] EEPA special issue on CA reforms.

[21] Only four teachers were sampled per school. As a result, our school-level measures of instructional practices and curriculum use contain generous amounts of error – yet this error biases against positive findings. See Cohen & Hill 1998 for further detail.

[22] See Appendix A.

[23] The standard deviation of CLAS is .52 (school level).

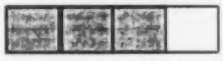
[24] See Cohen & Hill 1998 for a more lengthy discussion. We should note here, however, that this paper showed it was some combination of teacher learning, replacement unit use, and revised instructional strategies which led to higher student CLAS scores. Causality is difficult to sort out in this dataset for a number of reasons, and we included the "instructional practices" regression only here for purposes of parsimony. We are confident that some combination of the three result in higher CLAS scores.

[25] Teachers of high-status students were more likely to report *using* the document, but only by a small margin. Reform documents were in general not strongly related to teachers' beliefs and instructional practices (see Cohen & Hill 1998).

[26] "Traditional" and "reform" belief scales – as well as a scale of traditional practices – did not show any differences by student social class.

[27] See Table A-2 regression 2, in appendix.

[28] Which of the following could be used to illustrate what 3/4 means? (CIRCLE ALL THAT APPLY)

a.  1

b. • • • / • • • / • • • / o o o 2

c. Stand four children up in front of the room and place hats on three of them..... 3

d. None of these because_____ 4

Which of the following story problems could be used to illustrate what 1 1/4 divided by 1/2 means?

a. You want to split 1 1/4 pies evenly between two families. How much should each family get? 1

b.	You have $1.25 and may soon double your money. How much money would you end up with?	2
c.	You are making some homemade taffy and the recipe calls for 1 1/4 cups of butter. How many sticks of butter (each stick = 1/2 cup) will you need?	3
d.	I'm not sure	4
e.	None of these.	5
	Instead:_____	

[29] Carpenter, T. P., Fennema, E. Peterson, P. L. (1989) " Using knowledge of children's mathematics thinking in classroom teaching: an experimental study." American Educational Research Journal 26:499-531. Brown, C. A., Smith, M. S., & Stein, M. K. (1996). *Linking teacher support to enhanced classroom instruction*. Paper presented at the annual meeting of the American Educational Research Association, New York, NY. Wiley, D., & Yoon, B. (1995). Teacher reports of opportunity to learn: Analyses of the 1993 California learning assessment system. *Education Evaluation and Policy Analysis*, 17 (3), 355-370.

[30] The remaining portions of this conclusion draw heavily on ideas which have been developed at much greater length in a study of Title I which Cohen and Moffitt are presently completing.

[31] One reason for the lack of such evidence is the lack of any sustained effort to use research either to improve the program or to report thoughtfully on its impact. Title I has spent many millions of dollars on state and local evaluations, but with a few exceptions they have been perfunctory and of little use in program improvement. Other millions have been spent on national evaluations, which have been thought to show that the program has few or no positive effects on learning. Title I's friends and defenders also have missed significant opportunities to use existing evidence to impeach some of the less thoughtful conclusions that have been drawn from the national evaluations.

APPENDIX A: STATISTICAL TABLES

TABLE A.1
ASSOCIATIONS BETWEEN TEACHERS' PRACTICE AND STUDENT MATH SCORES

	1 CLAS
Intercept	2.14*
	0.32
Percent FLE	-1.36*
	0.13
School Conditions*	-0.13*
	0.05
Framework Practice	0.16*
	0.07
Traditional Practice	-.001
	0.05
R2 (Adjusted)	0.65

TABLE A.2 REGRESSIONS OF FRAMEWORK PRACTICE SCALE ON STUDENT SES AND OTHER VARIABLES

	Framework Practice	Framework Practice	Framework Practice	Framework Practice
Intercept	3.46*	3.14*	2.69*	2.62*
(se)	0.06	0.07	0.09	0.09
Student curriculum work shop-time		0.08*	.064*	063
(se)		(.02)	(.02)	(.02)
Special topics workshop-Time		-.00	-0.00	0.00
(se)		(.03)	(.03)	(.03)
Past OTL		0.07	.09	.09
(se)		(.05)	(.06)	(.06)
Replacement unit use		.24*	.20*	.20*
(se)		(.03)	(.03)	(.03)
Textbook use			.23*	.23
(se)			(.03)	(03)
Math items				.07
(se)				(.05)
Percent FLE	-.35*	-.23*	-.20**	-.19**
(se)	(.10)	(.09)	(.09)	(.09)
R2 (Adjusted)	0.02	0.23	0.31	0.60

Note: all survey-based measures are averages from the teachers within a school who responded.

*Indicates significance at p<.01 level

** Indicates significance at p<.10 level

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TEACHER ROLES AND STUDENT ACHIEVEMENT IN HIGH-POVERTY SCHOOLS:

IMPLICATIONS FOR TITLE I SCHOOLWIDE IMPROVEMENT

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SUMMARY

Under present Title I legislation, high-poverty schools (i.e., schools with at least 50 percent of students living in poor families) are eligible to become schoolwide programs. The schoolwide-program model was created initially to give schools greater flexibility in allocating funds to address the needs of all their students. In this model, schools are allowed to merge Title I money with other funds, and to spend it on comprehensive programs that can benefit the entire school, not just the individual students eligible for Title I. To date, however, we have very little research-based knowledge about which roles teachers should play in high-poverty schools to maximize students' academic achievement levels. Teachers can play a number of roles for their schools, such as instructor, decision-maker of school policies, curriculum/instructional planner and coordinator, and peer supporter, to name a few.

Using data from Prospects, a federally-funded evaluation of Title I, I conducted a study designed to examine the relations between these various teacher roles, and students' longitudinal reading and math achievement rates. In particular, I compared the effectiveness of schools where teachers primarily made school-level decisions and coordinated Title I with the regular school program to schools where teachers mainly coordinated these programs and supported one another in a collegial environment, but were not responsible for making school-level administrative decisions. I found that students who were taught by teachers in the former schools tended to make smaller achievement gains than students taught by teachers in the latter ones. The students who made the greatest gains were those taught by teachers in the latter schools, who coordinated programs and created a collegial environment but were not responsible for administrative decisionmaking *and* who also tended to have a shared academic mission and felt their principal was a good leader.

Taken together, these results indicated that teachers in high-poverty schools should be empowered to focus their attention on coordinating classroom instruction and curriculum with other teachers, instead of splitting their time and energy between teaching and additional administrative decisionmaking responsibilities. Nonetheless, I found that teachers' coordination efforts (coordinating Title I with the regular school program) alone were not sufficient to increase students' achievement levels. Teachers had to coordinate within a friendly work climate, share a mission to improve their teaching, and have a principal who was capable of buffering them from outside distractions.

Some educators question the logic of encouraging the widespread implementation of the schoolwide model before we adequately understand how to improve high-poverty schools to help all students in need. My study provided evidence that we need to provide eligible schoolwide programs with information about the structures of successful high-poverty schools: how they organize teachers' responsibilities and their work environments. Under present Title I legislation, schools must conduct a needs assessment in order to qualify for schoolwide status. But the guidelines tend to overemphasize the assessment of students' needs. When we view schools as a system, it becomes clear that the needs of teachers and the school itself must be assessed too. Thus, I contend that a school applying for Title I funds should conduct a more complete assessment that takes into account the needs of all stakeholders in the building: teachers, administrators, and students. These assessments might reveal that a school's organizational structure must be altered to meet these individuals' needs. Thus, a more complete school-change plan could develop out of this more thorough needs assessment. Without a carefully planned design for change, we can expect that many schoolwide programs will not use their Title I funds more effectively than in the past.

SCHOOLWIDE PROGRAMS

Although schoolwide Title I programs have been in existence since 1978, they became more viable after the 1988 Hawkins-Stafford Amendments removed the requirement that school districts must match federal dollars (Stringfield, et al., 1994). The 1994 Improving America's Schools Act (IASA) further facilitated the development of schoolwide programs, especially in urban centers, by loosening the eligibility requirements from the 75 percent to 50 percent poverty-level thresholds. Consequently, the number of schoolwide programs nationwide increased from 1,200 in 1991 to more than 8,000 in 1996 (Wong & Meyer, 1998).

Recent Title I legislation has encouraged more urban schools to develop schoolwide programs based on five fundamental beliefs:

1. The great majority of students in high-poverty schools can profit from Title I-funded services;
2. Traditional methods of providing categorical services, such as "pullouts," overly fragment students' learning experiences and negatively stigmatize them;
3. Title I funds should help schools upgrade their entire delivery system by adopting "effective-school" organizational features;
4. Quality education is developed at the school level; and
5. Schools know best how to serve the needs of their students and families (Stringfield, et al., 1994).

Present Title I schoolwide legislation says little about the actual features schoolwide programs should adopt to become effective schools. This may be the case because the research on what makes an effective school and on the organizational systems of schools is not a coherent body of literature with clear recommendations for how to improve schools.

In a general sense, there are two competing theories of how teachers are empowered best to maximize their effectiveness as educators. One theory, the "effective schools" model, maintains that quality schools, especially in high-poverty areas, typically have strong principals who are instrumental in creating a mission centered on student learning, who recruit and retain teachers who share the mission, and who buffer teachers from any peripheral disruptions that may hinder their abilities to achieve the schools' goals. Schools within this model tend to empower teachers in the curriculum and instruction domain. Buffered from outside intrusions and focused on classroom improvement, teachers develop group trust and collegiality (for instance, see Rosenholtz, 1985).

Another theory, the "empowerment model," contends that high-quality schools contain teachers who make school governance and curriculum/instruction decisions. That is, teachers are empowered fully in all or most realms of decision-making. According to the model, full teacher empowerment is essential for two reasons. First, it prevents administrators from implementing school policies that conflict with good classroom instruction. Teachers would be unlikely to enact administrative rules that impede their capability to deliver high-quality instruction. Second, this model assumes that teachers will be more likely to "buy-in" to the goals of the school if they have a full say in decision-making. Teachers' motivation to help their students succeed is expected to increase as the teachers' identification with the school grows (e.g., Marks & Louis, 1997).

There is little research on whether schoolwide programs are effective in improving student achievement, and much of it is inconclusive, (Wong and Meyer, 1996) due partly to variation in how programs are designed in different schools. Because there is not one schoolwide program model that schools adopt, teachers probably play different roles from one schoolwide site to the next, and we do not know which roles, either alone or in combination, are best for the school. Using a case study methodology, Stringfield et al. (1997) found that some projects adopted a site-based management system that empowered teachers to make school-level decisions. Other evidence indicated that schoolwides in one large district were successful at adopting "effective-school" principles, such as strong central leadership and a shared mission (Wong and Meyer). Virtually no evidence exists, nonetheless, that elucidates the school characteristics that promotes better teacher coordination efforts, which is a fundamental purpose behind the schoolwide-program notion. Is coordination better promoted when schools have a shared mission, collegial working relationships among teachers, and a strong principal, (the "effective schools" model) or when teachers are bestowed with full decision-making control (the empowerment model) ?

PURPOSE OF THE STUDY

Few schoolwide-program studies have been conducted to date because schoolwide programs have only recently been launched on a large scale, and it is difficult to locate equivalent comparison schools to gauge their effectiveness. Furthermore, studying existing schoolwide programs does not necessarily reveal the potential of the delivery model as a means to improve student achievement, because it is possible that no present schoolwides, or very few, are working up to their full potential. Another research approach is to conduct large-scale studies of eligible Title I schools to examine how various combinations of teachers' roles are related to student learning. This research approach might make clear which teachers' roles should be promoted most when schools consider how they will change for the better.

The study was an attempt to determine the organizational model that best facilitates teacher coordination and consequently, promotes student achievement. I hypothesized that teachers in effective schools were likely to assume Title I and regular-program coordination and planning responsibilities. I wanted to discover, though, if effective schools were more likely to adopt an "effective-school" or "empowerment" model within which teachers coordinated. The standardized achievement test scores of first- and third-grade cohort students were used to model each students' academic growth over two (Cohort 1) or three (Cohort 3) study years. Average student growth rates within schools were predicted by variables developed to represent school compositional features (used as control variables), coordination, teachers' role in school governance decisions, and social support/shared mission/principal leadership. I did not hypothesize which school model would work best to facilitate coordination and, subsequently, student achievement—these analyses were exploratory.

METHOD

Student and School Samples

Approximately 40,000 students, their parents, teachers, principals, and other school administrators took part in Prospects, a federally-funded evaluation of Title I. The study tracked a first-grade cohort from fall 1991 to spring 1994, and third- and seventh-grade cohorts were followed from spring 1991 to spring 1994. The analyses for this study did not include the data from the final collection period (i.e., spring 1994). The participants in the study included Title I and non-Title I students from schools throughout the country. Schools in predominately disadvantaged communities were oversampled, making Prospects especially suited for studying the characteristics of effective high-poverty schools (i.e., schools with 50 percent or greater poverty rates).

It was not possible to use data from all of the sampled students and high-poverty schools for these longitudinal analyses, mainly because of missing data and student mobility. To conduct the study, four student/school subsamples were developed: first-grade cohort reading and math, and, third-grade cohort reading and math. Only data from students who remained in the same schools during the data-collection period were used so that students had sufficient time to be exposed to the school effects. Consequently, the seventh-grade cohort data were not used because most students graduated to high school in the third data collection year, so too few students remained in the initial school samples.

In the first-grade cohort reading subsample, there were 1,612 students enrolled in one of 61 schools (23 urban, 18 suburban, and 20 rural). The first-grade math subsample consisted of 965 students in 44 schools (21 urban, 10 suburban, and 13 rural). The third-grade reading subsample was comprised of 1,416 students from 55 schools (28 urban, 12 suburban, and 15 rural), and the third-grade math subsample consisted of 1,263 students from 51 schools (26 urban, 11 suburban, and 14 rural). The average poverty level of the schools across subsamples was about 75 percent, with the schools ranging from 50 percent to 100 percent poverty. African-American and Latino students tended to be overrepresented in the subsamples compared to the overall weighted core sample, which provided comparison figures that were nationally representative.

Measures

All students were administered the Comprehensive Test of Basic Skills, Fourth Edition (CTBS/4) reading and mathematics tests. Scores from three waves of testing were used for the analyses. First-grade cohort students entered school in the fall of 1991. They were tested during the first month of school, the following spring (1992), and the spring of 1993. For the third-grade cohort, scores were used from the 1991 to 1993 spring test administrations. These scores served as the dependent measures in the hierarchical linear model (HLM) analyses.

Items from the classroom and Title I teacher, principal, and Characteristics of Schools and Programs survey instruments, which were administered each spring (1992 and 1993 for the first-grade cohort; and

1991, 1992, and 1993 for the third-grade cohort), were used to create the school-level variables. D'Agostino, Borman, Hedges, and Wong (1998) and D'Agostino (1997) explained the development of the factors in detail. We used the following compositional variables they developed to control for potential background differences between schools:

- number of students enrolled in the school (school size);
- number of school days per year (days of school);
- urbanicity dummy variable indicators (suburban and rural coded "1");
- percentage of students in the school who received free or reduced-priced lunches (poverty level); and
- a student mobility variable, which was the ratio of the number of students who left the school permanently during the school year to the total number of students who were enrolled at the beginning of the academic year.

Also, separate variables represented the percentage of students enrolled in each school who were of the following racial/ethnic backgrounds: American Indian, African American, Asian, Caucasian, Hispanic, and Other Race.

Three school variables were created from teacher and principal survey items: separate math and reading measures of:

- Coordination of Title I With Regular Program;
- Teacher Empowerment in School Governance; and
- Social Support, Shared Mission, and Principal Leadership.

The coordination factor was developed from survey items that asked Title I and regular teachers if they consulted other staff when they evaluated student progress, how well they felt the Title I program was coordinated with other school services, and if they coordinated their curricular materials and instructional methods. The school-governance factor was based on survey items designed to ascertain the degree to which teachers felt they had actual influence over various school-level policies, such as setting discipline policies and making student classroom placement decisions. Principal survey items addressing the degree to which the principal shared equally in the decision-making process with teachers, and the frequency of principal-teacher meetings to identify program needs and to discuss plans and procedures that affected the school, were also used to create this factor. The social support/shared mission/leadership factor was based on Title I and regular teacher survey items related to the degree to which teachers shared similar goals and beliefs, teachers' impressions of the principals' abilities to deal effectively with outside pressures, and the degree of cooperation and support among teachers.

The factors were created for each of the two (first-grade cohort) or three (third-grade cohort) years of data collection. All items were standardized before creating mean factor scores. We constructed overall longitudinal factors by averaging the yearly factor scores, and created two-way interaction terms among the three factors for each possible pair of factors.

Hierarchical Model Method

I developed final, conditional three-level HLM models for each of the four subsamples to examine the variation of student-specific growth rates within individual schools, as well as across different schools, and to discover which school-level variables and interactions significantly predicted school average student achievement levels. Each student's three math or reading scale scores were predicted by a test-time variable (code "0," "1," "2") at level 1, which represented each student's initial achievement status (i.e., score at time "0") and growth trajectory (i.e., size of the prediction slope). No level-2 predictors were added to the models, which yielded two, unconditional parameters at this level: the average initial achievement level of students in each school; and the average student growth rate per school. These two parameters became the outcomes at level-3, where they were predicted by the school variables.

RESULTS

Tables 1 through 4 provide the final, conditional HLM results by cohort and subject. The unconditional models, for which no predictors were included except for the level-1 time-variable, were developed first to examine the proportions of student initial achievement status and growth rate variances that were either within or between schools (these results are not shown). For the first-grade cohort reading scores, about 25 percent of the initial status and learning rate variances lie between schools. About 21 percent of the initial achievement score variance was between schools and nearly 75 percent of the learning rate variance could be accounted for at the school level for the first-grade cohort in math. Nearly 30 percent of the initial achievement status variance and about 32 percent of the learning rate

variance were between schools for the third-grade cohort in reading, and nearly 22 percent of the initial math status variance and approximately 59 percent of the math learning rate variance was between schools for the third-grade cohort.

The final, conditional models presented in the tables contain unstandardized beta coefficients for the significant predictors, making the coefficients directly interpretable. Variables that were based on single items, such as class size, were not standardized, but were centered around the grand mean, which permits one to interpret the intercepts and slopes in the models as those for schools with average scores on the measures. Of course, the beta values for these variables represent the displacement score for one unit change in the variable expressed in its original metric. Only significant predictors of initial achievement status or growth rate were retained in the final models; non-significant variables were removed.

From Table 1, it can be seen the coordination factor negatively predicted the schools' average student initial achievement levels, whereas social support positively predicted the outcome. Neither factor significantly predicted schools' average student learning rates, but the interaction between the two factors was a significant and positive predictor of student achievement over time. Schools that contained first- and second-grade Title I and regular teachers who collaborated on developing the Title I program and who claimed to have high levels of social support, shared mission, and principal leadership had students who gained the most in reading achievement from first to second grade.

Table 2 indicates that poverty level and rural-school status were school compositional variables that negatively predicted average school-level student math learning rates for the first-grade cohort. More school days were associated with higher levels of math learning, as was the coordination factor. The school-governance factor negatively predicted math learning rates for the first-grade cohort.

TABLE 1

THREE-LEVEL ANALYSIS OF STUDENT READING ACHIEVEMENT WITHIN AND BETWEEN HIGH-POVERTY TITLE I SCHOOLS (FIRST-GRADE COHORT MODEL WITH SCHOOL-LEVEL PREDICTORS)

Variables	*Coefficients*	*se*	*t ratio*
Model for initial total reading scale score, p_{0ij}			
Model for mean initial status of average student, β_{00j}			
Intercept, γ_{000}	474.09	3.64	130.20***
Coordination of Title I with regular program (C), γ_{001}	-6.69	3.52	1.90*
Social support/shared mission (S), γ_{002}	9.23	4.00	2.31**
C x S, γ_{003}	6.98	4.00	1.74
Model for learning rates, p_{1ij}			
Model for learning rate of average student, β_{10j}			
Intercept, γ_{100}	73.99	1.53	48.33***
Coordination of Title I with regular program (C), γ_{101}	-1.49	1.47	1.01
Social support/shared mission (S), γ_{102}	-2.34	1.71	1.37
C x S, γ_{103}	4.08	1.64	2.48**

Note. *p<.10, **p<.05, ***p<.01

TABLE 2

THREE-LEVEL ANALYSIS OF STUDENT MATH ACHIEVEMENT WITHIN AND BETWEEN HIGH-POVERTY TITLE I SCHOOLS (FIRST-GRADE COHORT MODEL WITH SCHOOL-LEVEL PREDICTORS)

Variables	*Coefficients*	*se*	*t ratio*
Model for initial total math scale score, p_{0ij}			
Model for mean initial status of average student, β_{00j}			
Intercept, γ_{000}	473.28	3.83	123.43***
Poverty level, γ_{001}	-2.25	4.27	-0.53
Rural school, γ_{002}	25.58	9.35	2.74***
Days of school, γ_{003}	-1.83	0.52	-3.52
Coordination of Title I with regular program (C), γ_{004}	2.77	3.83	0.73
School governance (G), γ_{005}	9.84	4.24	2.32*
Model for learning rates, p_{1ij}			
Model for learning rate of average student, β_{10j}			
Intercept, γ_{100}	73.25	1.88	38.93**
Poverty level, γ_{101}	-5.61	2.11	-2.66**
Rural school, γ_{102}	-19.61	4.63	-4.23***
Days of school, γ_{103}	0.82	0.25	3.26***
Coordination of Title I with regular program (C), γ_{104}	3.30	1.88	1.75*
School governance (G), γ_{105}	-3.54	2.07	-1.71*

Note. *p<.10, **p<.05, ***p<.01

For the third-grade cohort, the interaction between the coordination and school-governance factors was a negative and significant predictor of schools' average student reading growth rates (see Table 3). That is, schools with teachers who claimed to have high levels of coordination and school-governance empowerment had students who grew at the slowest rates in reading from third to fifth grades. Notice from Table 3 that the governance factor alone is a significant positive predictor of schools' student learning rates, but this effect becomes difficult to interpret with the significant interaction in the model.

Table 4 reveals that two interaction terms were significant predictors of schools' average student math learning rates; the coordination-social support interaction was a positive predictor and the coordination-governance factor negatively predicted the outcome. Third-grade cohort schools with teachers who coordinated Title I with the regular school program and who reported high scores on the social support/shared mission/leadership factor taught students who gained the most in math. When teachers reported high levels of both coordination and school-governance responsibilities, their students grew in math at slower rates over the study duration.

TABLE 3

THREE-LEVEL ANALYSIS OF STUDENT READING ACHIEVEMENT WITHIN AND BETWEEN HIGH-POVERTY TITLE I SCHOOLS (THIRD-GRADE COHORT MODEL WITH SCHOOL-LEVEL PREDICTORS)

Variables	*Coefficients*	*se*	*t ratio*
Model for initial total reading scale score, p_{0ij}			
Model for mean initial status of average student, β_{00j}			
Intercept, γ_{000}	665.08	2.94	225.90***
Poverty level, γ_{001}	-11.50	3.03	-3.79***
Coordination of Title I with regular program (C), γ_{002}	0.39	3.12	0.13
School governance (G), γ_{003}	-3.18	0.69	-1.07
C x G, γ_{004}	6.59	0.72	2.07**
Model for learning rates, p_{1ij}			
Model for learning rate of average student, β_{10j}			
Intercept, γ_{100}	14.29	0.67	21.26***
Poverty level, γ_{101}	-0.44	0.68	-0.65
Coordination of Title I with regular program (C), γ_{102}	0.27	0.69	0.40
School governance (G), γ_{103}	1.45	0.69	2.10**
C x G, γ_{104}	-2.37	0.72	-3.30***

Note. *p<.10. **p<.05. ***p<.01.

TABLE 4

THREE-LEVEL ANALYSIS OF STUDENT MATH ACHIEVEMENT WITHIN AND BETWEEN HIGH-POVERTY TITLE I SCHOOLS (THIRD-GRADE COHORT MODEL WITH SCHOOL-LEVEL PREDICTORS)

Variables	*Coefficients*	*se*	*t ratio*
Model for initial total reading scale score, p_{0ij}			
Model for mean initial status of average student, β_{00j}			
Intercept, γ_{000}	672.11	2.42	278.04***
Poverty level, γ_{001}	-12.46	2.51	-4.97***
Coordination of Title I with regular program (C), γ_{002}	0.98	2.42	0.41
School governance (G), γ_{003}	1.21	2.60	0.47
Social support/shared mission (S), γ_{004}	-3.85	2.57	-1.50
C x G, γ_{005}	4.25	2.92	1.45
C x S, γ_{006}	-5.53	3.31	-1.67
Model for learning rates, p_{1ij}			
Model for learning rate of average student, β_{10j}			
Intercept, γ_{100}	21.10	1.00	21.04***
Poverty level, γ_{101}	1.79	1.04	1.72
Coordination of Title I with regular program (C), γ_{102}	0.59	1.01	0.59
School governance (G), γ_{103}	1.08	1.07	1.01
Social support/shared mission (S), γ_{104}	1.83	1.06	1.72
C x G, γ_{105}	-3.19	1.21	-2.64**
C x S, γ_{106}	2.83	1.37	2.07**

Note. *p<.10, **p<.05, ***p<.01

Discussion and Policy Implications

Title I legislation has allowed for the widespread development of schoolwide programs in areas of high poverty without adequate research to document that this delivery mode is more effective than traditional means of implementing Title I services, such as "pullout" programs. The results of this study indicate that certain school conditions need to be intact for students to gain educationally from improved services. Teachers' curricular-instructional coordination appears to play an important role in the school improvement process. Coordination alone, nonetheless, was not a strong predictor of student learning rates. It needs to be conducted within a collegial work environment where teachers have a shared focus and a strong principal leader. Further, the findings revealed that teachers should not be over-burdened with too many decision-making responsibilities, such as being responsible for curricular and school-governance decisions. Of the two decision-making domains, teachers should play a vital role in coordination and planning.

Logically, it makes sense that the schoolwide delivery model has greater potential to foster the development of these school features than more traditional modes of delivering Title I services. But granting schools greater flexibility of fund allocation does not guarantee programmatic improvements that will help students increase their achievement levels. Eligible schoolwide programs need assistance during the application and review processes to develop a program plan that is at least partly centered on organizational changes that encourage teachers to better coordinate their efforts. Title I law requires all schoolwide programs to conduct a needs assessment of the entire school system as part of their program plan (Improving America's Schools Act of 1994). Witkin and Altschuld (1995) contend that a complete needs assessment should focus on all levels of the delivery system, so the law is in concert with present research on developing potentially useful needs analyses. But the Title I guidelines tend to overemphasize the assessment of students' needs. Eligible schools are required to develop instructional improvement strategies to ensure that all students meet the state's proficient or advanced levels of academic performance. Schools are expected to create effective instructional practices based on their analyses of students' existing skills and characteristics. The law stipulates that schools must devote at least ten percent of their funds for staff professional-development activities, but it is not explicit about the types of staff-development activities that schools should fund. It merely states that school personnel must decide which staff-development activities to fund in order to increase students' chances of meeting the state performance standards.

Because the guidelines do not provide schools a road map to develop an effective, multilevel needs assessment, it is imperative that schools be given direction in this area to make significant strides toward genuine school improvement. As Bodilly and Berends explain in this volume, district Title I administrators play a vital role in providing schools technical information regarding program improvement. Information about how to conduct a thorough needs assessment should be made available to both district administrators and schools staff in the future, and a school's schoolwide program application should not be approved until such an evaluation has been conducted.

What should a thorough needs assessment include? Witkin and Altschuld (1995) explain that needs exist at three distinct levels of any delivery system. At level one are the needs of the service recipients, which in the case of schooling are students and their parents. Title I guidelines ostensibly encourage schools to focus their needs assessment activities here. It is true that, ultimately, increasing student achievement is the primary goal of Title I, but without assessing the needs of the two additional system levels, it is unlikely that achievement scores will improve. At level two are the needs of the service providers—the school staff—and at level three are the needs of the delivery system itself, such as the resource and organizational structure needs of the school. As is the case in any system, the needs of each level are interdependent. For instance, students' learning needs are interconnected with teachers' needs to deliver effective instructional practices.

The results of this study highlighted that schools must assess teachers' needs at levels two and three in order to increase students' learning rates. Schools must consider what teachers need to coordinate their efforts effectively (level two), and how to develop school conditions (level three) that foster teacher collaborative projects. Further, the study findings indicated that the principal's needs must be assessed in order to maximize his or her leadership skills, given that strong principal leadership is critical for building a productive school climate. It is much less important, and perhaps detrimental, for schools to concern themselves with evaluating how teachers can be empowered to make administrative decisions in addition to their instructional responsibilities.

Because this study was a macro-examination of effective school functioning, future research that can determine in greater detail the interrelationships of schools' organizations and effective Title I programs is necessary. More research focusing on elements of schoolwide program improvement is required as well.

Future studies should address how policies can be enacted that make the schoolwide program process a catalyst for school change.

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STATUTES

Improving America's Schools Act of 1994, Pub. L. No. 103-382.

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HOW TITLE I CAN BECOME THE ENGINE OF REFORM IN AMERICA'S SCHOOLS

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SUMMARY

Title I, the largest federal investment in elementary and secondary schools, is in need of a major overhaul to increase its impact on the achievement of the millions of children it serves. This paper proposes changes in Title I intended primarily to enable teachers to implement high-quality, research-based programs and practices with all children in schools serving many children placed at risk. These proposed changes are as follows.

1. Greatly expand access to proven programs.

The staff of Title I schools should have access to an array of proven, replicable programs, both comprehensive, whole-school reform designs as well as more focused programs (e.g., programs for reading or math, early childhood, tutoring, classroom management, study skills, parent involvement, or school-to-work). The Comprehensive School Reform Demonstration (CSRD), introduced in 1997 by Congressmen David Obey and John Porter, is one model of how to do this. It provides grants of at least $50,000 for up to three years to schools that adopt proven comprehensive designs. Over time, as R&D evaluates existing programs and develops new ones, and as reform organizations build capacity to serve more schools, proven designs should be available to all Title I schools. As the availability and research base of proven programs increases, Title I schools should increasingly be encouraged to adopt these programs, especially if they are not achieving good results with their existing approaches.

2. Invest in research and development to develop and evaluate replicable programs, and build design team capacity.

If Title I schools are to be encouraged to adopt effective programs, the number of programs, their capacity to work with large numbers of schools, and most importantly, the research base behind each must be substantially improved. Investments are needed in design competitions to accelerate the development of promising models and to fund third-party evaluations of existing and new programs. Adding an amount set at 3% of Title I funds for R&D of this kind could produce an array of proven, replicable models within 3-5 years. In addition, not-for-profit reform organizations need assistance to scale up their capacity to serve large numbers of schools with quality and integrity.

3. Increase investment in high-quality professional development.

Professional development is central to the adoption of comprehensive reform designs, of course, but there is a need to increase high-quality professional development for other purposes as well. For example, teachers may need professional development to build their subject matter knowledge, classroom management skills, multicultural awareness, or ability to work with English language learners.

4. Expand eligibility for schoolwide projects.

The easing of requirements for schoolwide status set in motion in the previous two Title I reauthorizations should be continued, perhaps by enabling all schools below 50% free lunch to apply for schoolwide status if they have a plausible schoolwide reform plan. As Title I transitions toward an emphasis on professional development and whole-school change, targeted assistance (non-schoolwide) status should fade away.

5. Improve assessment and accountability procedures.

Assessment/accountability procedures should be refined to reward schools making gains toward demanding standards, assist schools that are not making adequate gains, and restructure schools that are low and declining.

For more than 30 years, Title I has been by far the federal government's largest investment in elementary and secondary education for children in impoverished communities. At about $8 billion per year, it serves approximately 10.5 million children in 50,000 schools (U.S. Department of Education, 1998). A key reason for the popularity of Title I has been its broad reach; 95% of school districts receive Title I funds (U.S. Department of Education, 1993a). Yet this support is eroding. In 1997, the U.S. Senate passed (by a single vote) a bill making Title I into block grants to states with few restrictions on its use. This bill did not prevail, but sentiment in favor of block grants remains strong among a significant minority in Congress. In contrast to its rapid growth during the 1980's and early 90's, funding for Title I has been more or less stagnant in recent years, during good economic times. An economic downturn or other changes could seriously threaten the existence of Title I.

Perhaps the most important reason for the peril faced by Title I is a growing perception that Title I does not have as much of an impact on student achievement as was previously thought. This perception is based primarily on the disappointing results of an evaluation of Chapter 1, Title I's predecessor (until 1994). *Prospects* (Puma, Karweit, Price, Ricciuti, Thompson, & Vaden-Kiernan, 1997), a four-year longitudinal study, compared Chapter 1 and non-Chapter 1 students, controlling for background factors. It reported essentially no effect of Chapter 1 participation on student achievement. Later analyses of *Prospects* data have found positive effects for certain subgroups of students, especially those with less severe learning problems (Borman, D'Agostino, Wong, & Hedges, 1998), and Chapter 1 was a likely factor in the significant reduction in minority-white achievement gaps in the 1970's and '80's. Other recent studies have found more promising effects than did *Prospects* (Borman & D'Agostino, 1996), as did the Sustaining Effects study of the 1970's (Carter, 1984). However, even if these more optimistic assessments are right and Puma et al. are wrong, there is no doubt that the effects of Chapter 1 were modest. It is unlikely that effects for the current Title I program are markedly better, as school and classroom practices under Title I are not, in most cases, significantly different from those under Chapter 1 (Citizen's Commission on Civil Rights, 1998).

Whatever the average effects of Title I resources may be, Title I is the crucial resource for reform of the education of students in high-poverty schools. Whenever an inner-city or poor rural school is found to be achieving outstanding results with its students by implementing innovative strategies, these innovations are almost invariably paid for primarily by Title I funds. Experience with the difficulties of implementing school-level reforms in high-poverty schools in countries lacking funding sources similar to Title I shows how central this resource is in creating the potential for major improvements in school practices and student outcomes (see Slavin, in press); the relatively high performance of American elementary students on international comparisons of reading and math may reflect the focus of Title I on exactly these subjects and grade levels.

For political reasons and, more importantly, to improve its outcomes for children, it is essential to re-energize and refocus Title I. The 1999 reauthorization provides a timely opportunity to reconceptualize Title I, to focus it more directly on helping improve teachers' practices and, therefore, student achievement. The purpose of this paper is to outline a means of making Title I an engine of school-by-school reform by using both its resources and its influence to promote the use of effective programs and materials in schools serving many children placed at risk.

Improving the Achievement Outcomes of Title I Programs

The task to be accomplished is simple to state, but difficult to achieve. It is to dramatically improve the educational outcomes of children receiving Title I services. The difficulty, of course, is in the juxtaposition of two immutable facts. First, student achievement outcomes cannot change unless teachers and other educators who work with Title I children begin to use markedly more effective instructional strategies and materials. Second, the number of schools, teachers, and students involved in Title I is so vast that changing teachers' practices, one classroom at a time, is a gargantuan task. Title I currently employs approximately 189,000 teachers, reading specialists, paraprofessionals, nurses, counselors, social workers, parent liaisons, and other educators, located in more than 50,000 schools in more than 13,000 school districts in every state. Yet it is not only Title I teachers who must use much more effective practices if Title I children are to achieve at significantly higher levels. Every teacher in a Title I school must embrace more effective strategies and materials. This means that we need to reach about 1.5 million regular classroom teachers, in addition to the 189,000 educators paid directly by Title I funds. Just to do a one-day workshop in every Title I school would take about 250 person-years. Yet far more than a one-day workshop is needed to

substantially improve the daily teaching practices of an entire school staff.

Recognizing the difficulties inherent in large scale school-by-school change, most proposals for Title I reform have focused instead on changes in regulations, formulas, and tougher standards and accountability mechanisms. In particular, reforms introduced in the 1988 and 1994 reauthorizations moved Title I in the direction of greater flexibility. The most important reform has been provisions allowing high-poverty schools to become "schoolwide projects," in which all students in the school can benefit from Title I dollars. Currently, schools in which at least 50% of students qualify for free or reduced price lunches can become schoolwide projects, and approximately 15,000 schools (of 20,000 that are estimated to qualify) have chosen this option. Other reforms in 1988 and 1994 focused on standards and accountability; in particular, the 1994 reauthorization required districts to hold Title I children to the same standards as other children, and required states and districts to adopt challenging content and performance standards. Unlike the schoolwide provisions, these elements of the reauthorization have been only inconsistently implemented (Citizen's Commission on Civil Rights, 1998), but the standards and accountability movement of the past decade has created conditions in which the vast majority of Title I schools operate under state or district policies in which there are content and performance standards, and in which there are negative sanctions for low or falling scores on assessments ranging from embarrassment to school takeovers or reconstitution (and positive consequences for high or rising scores ranging from recognition to cash awards).

A Vision of Title I: 2004

The changes in Title I introduced in 1994 created the potential for Title I schools to use more effective strategies, and increased their motivation to do so. Thousands of schools have used the new flexibility in Title I to adopt or develop more innovative approaches. However, the great majority of Title I schools are not different in fundamental ways from Chapter 1 schools. Their students are capable of achieving at much higher levels than they do today, but this will not change until teachers in Title I schools are using more effective methods and materials every day.

The problem is that schools are typically given little guidance in writing their Title I plans. The safest thing for a principal or school planning committee to do in a Title I plan is to propose what the school proposed last year, or what Title I/Chapter 1 has always supported: pullout teachers and classroom aides. New accountability pressures (or an honest perception that too many children are failing) may motivate principals to try other configurations or programs, but the path of least resistance is to support the salaries and roles of existing staff. To do otherwise risks turmoil, hard feelings, and uncertainty.

It is time to radically change Title I. Much as Title I is a popular program, because it goes to so many school districts, it cannot continue to survive year after year without producing better outcomes for children. Millions of our most impoverished children depend on Title I, which provides the best chance they have that their teachers will have access to the best in curriculum and instruction. We can do much better.

As a starting point for a discussion of how Title I must change, consider a vision of what Title I might look like five years from now, in the year 2004, if we make the right choices in the upcoming 1999 reauthorization.

In this vision, principals, working with representatives of teachers and parents, would propose Title I plans to their districts and states, much as they do today. However, each school staff would not be expected to reinvent the wheel. Instead, school staffs would select programs from a list of proven, replicable models. These would include whole-school change models, incorporating curriculum, instructional methods, assessments, services for at-risk children, family support programs, professional development, and other features. Alternatively, schools could select programs in specific subject areas or for specific purposes (e.g., tutoring for poor readers, classroom management, or parent involvement), and then assemble these into their own comprehensive plans. They might choose proven, effective after-school or summer school programs.

Each of the programs on the proven list would have to have been evaluated against rigorous standards of evidence by third-party, neutral evaluators. They would have been compared to matched control schools on achievement measures linked to national standards, plus other measures, if appropriate. Schools would have available the results of these assessments, and would use them along with other factors, such as cost, appropriateness to their unique needs, and availability, to make a rational, considered choice. No program is effective in every circumstance, and every program depends for its effectiveness on the quality of implementation

provided by the school itself. Yet school staffs could have confidence that if they adopted a given method and implemented it with fidelity, intelligence, and enthusiasm, they would be likely to produce at least the results obtained in the third-party evaluations.

The entire school staff, plus parent representatives, would be involved in the selection of innovative programs. In fact, staffs might be required to vote by secret ballot to adopt a given model, with a requirement of a supermajority of, say, 80% in favor. Effective implementation of any innovation is unlikely if the professionals implementing it had no part in choosing it.

Schools would not be *required* to select a program from an approved list; they would be able to propose an alternative if they could provide adequate, research-based justification. They might, for example, propose to use programs that are in the process of being evaluated, or to develop their own comprehensive approaches. However, this would require careful thought and planning. In contrast to the situation today, the path of least resistance would be to select a proven model, not to simply hire pullout teachers and aides or to propose a poorly planned, home-grown model.

Over time, the list of proven programs would grow and continually improve. Substantial federal funding would support a nationwide enterprise of development, evaluation, and dissemination of programs designed to address every subject, every age level, and every need of Title I elementary and secondary schools. Programs found to be effective by their developers would be evaluated by third-party evaluators and, if successful, added to lists of proven programs.

Title I offices or other agencies in states, large districts, or intermediate units would build a capacity to help school staffs make rational and informed choices among proven models. They would maintain libraries of video tapes, print materials, curriculum samples, and evaluation reports to help school staffs in their decision making process. They would develop electronic means of disseminating information and answering questions, from the internet to video conferencing, as well as building staff capacity to help schools assess their own needs and resources and match them with appropriate programs. They would also build a capacity to help coordinate the activities of external providers of professional development services, to ensure that these providers are following through on their commitments, and to help schools and trainers assess and continually improve the quality of implementation of each design.

The Title I of the future would be somewhat like the medical innovation system today. Just as physicians are constantly upgrading their practices in light of new evidence and adopting new medications, devices, and procedures approved by the Food and Drug Administration, so would educators of the future be constantly upgrading their instructional practices, curricula, and services in light of new knowledge, especially program evaluations by neutral and skilled evaluation agencies.

ACHIEVING THE VISION

What would it take to make this vision a reality? First, it would take a substantial, long-term federal investment to greatly expand the "shelf" of effective and replicable approaches. This would mean funding evaluation agencies to carry out rigorous evaluations of existing promising programs, funding development of new models capable of being widely used in Title I schools, and experimenting with innovative methods for professional development, quality control, network building, and brokering new school designs into Title I schools (see Slavin, 1997). It would mean building the capacity of current and future training networks to work with large numbers of schools without sacrificing quality and integrity. A sufficient program of development and evaluation could cost as much as three percent of Title I, added to current funding levels. This would be a huge amount ($240 million per year) in comparison to current R&D expenditures, but a tiny amount in comparison to the total spent on Title I and on state compensatory education services (and tiny contrasted with federal support for R&D in such areas as medicine or agriculture). Another 3% might be allocated to helping not-for-profit reform networks build up their capacity to serve large numbers of schools.

Of course, today there are many replicable programs already working in hundreds of Title I schools that do have evidence of effectiveness. A companion study to the *Prospects* Chapter 1 evaluation, called *Special Strategies*, investigated promising alternatives to traditional Chapter 1 approaches (Stringfield et al., 1997). Two schoolwide models, our own Success for All program and James Comer's School Development Program, produced outstanding gains when well-implemented. The whole-school designs funded by the New American Schools Development Corporation have promising initial evidence of effectiveness, as do a few additional whole-school designs (Herman, 1999; Northwest Regional Educational Laboratory, 1998; Education Commission of the States, 1998; Slavin & Fashola, 1998). Many proven subject-specific

approaches, tutoring models, after-school programs, bilingual/ESL programs, and other elements can be readily assembled into schoolwide approaches. Yet there is still a need for a great deal more independent evidence on replicable programs, and for more programs to meet the full range of needs in Title I elementary and secondary schools.

As the list of proven and promising programs grows, Title I schools would increasingly be encouraged to consider these models as alternatives to their current practices. A special fund would be set aside to help schools with one-time start-up costs associated with adopting particular reform models, as is currently done in the Comprehensive School Reform Demonstration (CSRD) funded by Congress in 1997 (described below). However, adoption of proven programs could only be encouraged, not mandated, as the national training capacity of all existing reform networks grows to be able to serve larger numbers of Title I schools. As the number of proven models increases, and as the evidence of effectiveness for these models becomes stronger and more widely known, Title I services should increasingly focus on these programs.

Comprehensive School Reform

The centerpiece of Title I reform should be the widespread adoption by Title I schools, especially schoolwide projects, of proven, comprehensive reform models. These are programs affecting all aspects of school functioning: instruction, curriculum, school organization, provision of supplementary services, family support, professional development, and so on. Schools should be encouraged to select from among models with strong evidence of effectiveness; in general, this means that the achievement of students who participated in the program has been compared to that of students in matched control schools.

The advantages of emphasizing proven, comprehensive programs are many. The most important is that, in choosing a program with evidence of effectiveness in schools like theirs, school staffs can have confidence that if they implement the program as designed, they are likely to see the same kinds of gains produced in the evaluations. When well implemented, comprehensive programs unite school staffs around common goals, giving them a consistent, well-integrated approach to most aspects of school functioning. Because all national reform organizations create networks of participating schools, schools entering these networks are likely to interact with experienced schools within and beyond their own districts who can help mentor them toward effective implementation. Schools can create their own comprehensive designs by adopting equally well-evaluated approaches in each curriculum area, plus proven approaches to school organization, family support, and other features, but adopting a comprehensive design that includes all of these elements is easier to implement and more likely to coordinate all of these elements around a consistent vision and plan of operation.

In recent years, a number of developments have created new opportunities for the widespread adoption of comprehensive reform programs. First, starting in the 1980's, a small number of programs of this kind began to be developed and disseminated. Four of these developed particularly large national networks in the 1990's: James Comer's School Development Program (Comer et al., 1996), now in about 600 schools; Theodore Sizer's (1992) Coalition of Essential Schools, now in working with about 1000 mostly secondary schools; Henry Levin's (1987) Accelerated Schools, also in about 1000 schools; and our own Success for All (Slavin, Madden, Dolan, & Wasik, 1996), now in more than 1100 elementary schools. Other programs, such as Direct Instruction (Adams & Englemann, 1996), High Schools that Work (Bottoms et al., 1992), and Different Ways of Knowing (Catterall, 1995), have also built up sizeable networks of schools, training capacity, and research bases. These programs are quite different from each other, but all have created national networks of schools using the programs and substantial capacity for working with schools. Whatever their other strengths and weaknesses may be, these programs have convincingly demonstrated that external organizations can introduce ambitious school change models on a very large scale.

Starting in 1991, another key player came onto the scene. This was the New American Schools Development Corporation (NASDC), a non-profit foundation funded primarily by large corporations to develop "break the mold" school designs. NASDC began with eleven programs, and ultimately stayed with the eight most successful for a five-year funding period. Two of these were based on existing designs, Atlas (Comer, Gardner, Sizer, & Whitla, 1996), a partnership between Comer, Sizer, and Howard Gardner, and our own Roots & Wings design, which added math, science, and social studies program to the existing Success for All reading/writing model (Slavin, Madden, & Wasik, 1996; Slavin & Madden, 1999). The others are Co-NECT, Expeditionary Learning, Purpose-Centered Education (formerly Audrey Cohen), America's Choice (formerly National Alliance), Modern Red Schoolhouse, and

Urban Learning Centers (see Stringfield, Ross, & Smith, 1996, for descriptions of each). The New American Schools designs greatly expanded the choices of comprehensive models available to schools, and developed means of introducing models to schools and helping large districts develop strategies to support adoption, scale-up, and quality implementations within their districts (see Bodilly, 1998).

Obey-Porter Comprehensive School Reform Demonstration

The most important development in whole-school reform in recent years has been the creation in 1997 of the Comprehensive School Reform Demonstration (CSRD), introduced by Congressmen David Obey (D-Wisconsin) and John Porter (R-Illinois). CSRD provides $150 million per year, most of which is awarded to schools to help them with the start-up costs of adopting proven, comprehensive design. Schools can apply to their states for grants of at least $50,000 per year for up to three years. As of this writing, the grants process is under way; most schools will not start to implement programs with CSRD funds until September, 1999, but some are doing so during the 1998-99 school year.

In the CSRD legislation, 17 programs were named as examples of comprehensive designs. These included all eight NASDC programs, Success for All, Accelerated Schools, the School Development Program, the Coalition of Essential Schools, Direct Instruction, and several less-widely disseminated programs. Schools are not limited to these, and in early states a wide variety of programs have been funded, but the great majority (70%) of early grants have been to implement programs on the list of seventeen. Of the first 126 grants made by eight states, 25% have gone to Success for All/Roots & Wings, nine percent to Accelerated Schools, nine percent to America's Choice, and thirteen percent to the six NASDC designs other than Roots & Wings or America's Choice.

CSRD is providing an enormous boost to the comprehensive school reform movement, which was already expanding rapidly before CSRD. The most obvious impact is on schools that receive CSRD grants, approximately 2,500 schools in 1998-99. However, the impact will certainly be much broader than this. First, the entire awareness process being carried out by states in collaboration with regional laboratories is certain to make a far larger set of schools aware of comprehensive programs. Even those schools that never apply for CSRD or those that apply but are not funded will now be aware that comprehensive programs exist and that they are valid, approved expenditures of Title I funds. State departments of education, and especially their Title I offices (which are mostly running the CSRD competitions) will now have staff who are deeply aware of comprehensive school reform models, and may suggest them to Title I schoolwide projects entirely separate from the CSRD process. Similarly, the regional laboratories are playing a key role in the awareness and buy-in process for CSRD, and are learning about comprehensive reform models and how to disseminate them in the process.

Evidence of Effectiveness

Although the CSRD process is just now getting under way, there are early indicators that this strategy could make a substantial and widespread difference in student achievement. Of course, the first indicator is the evidence of effectiveness for the comprehensive models themselves (see Herman, 1999; Northwest Regional Educational Laboratory, 1998; Slavin & Fashola, 1998). Further, an independent evaluation of schools implementing a variety of reform models (mostly NASDC programs) in Memphis found that students in these schools were performing substantially better than were students in matched control schools (Ross, Sanders, Wright, & Stringfield, 1998). Comparisons of at least one externally developed comprehensive model, our Success for All program, to locally developed schoolwide projects, have consistently favored Success for All (see Ross, Alberg, & Nunnery, 1998; Slavin et al., 1996).

Requirements for Effective Implementation of Comprehensive Reforms

Clearly, Title I could become substantially more effective for children placed at risk if Title I schools adopted proven, comprehensive reform designs and implemented them with fidelity, intelligence, and adaptation to local circumstances. This is almost a tautology; obviously, Title I will be more effective if all Title I schools use more effective methods and materials. The question is how to bring about this state of affairs within a reasonable time period and with resources not substantially more than those spent on Title I currently. Following are some general considerations about how this could be done.

1. *Greatly Expand the Number, Quality, Evidence Base and Capacity of Proven and Promising Programs*

The most important missing ingredient in any plan for Title I reform based on widespread adoption

of proven programs is a shortage of rigorously evaluated programs capable of working with hundreds or thousands of schools. The Education Commission of the States (1998) surveyed twenty-four reform designs, including all of those mentioned in the Obey-Porter legislation, on their 1997-98 numbers and capacity to serve additional schools in 1999-2000. Even making some very liberal assumptions, the total capacity for 1999 is less than 3,000 additional schools; a more realistic estimate would be 2,000 additional schools, of which about two-thirds could be concentrated among six designs: Success for All/Roots & Wings, Accelerated Schools, School Development Program, America's Choice, Core Knowledge, and High Schools That Work. Of course, 2,000 to 3,000 schools is a lot of schools, but it is a small fraction of the 50,000 Title I or even the 20,000 schools eligible for schoolwide status. Clearly, there is a need for investment both in expanding the capacity of existing designs and in developing and disseminating new ones. In 1998, Congress approved funding for both of these purposes. It allocated $15 million to help design teams scale up their operations, to engage regional laboratories in support of scale-up, and to help build technology capacity to serve isolated rural schools. Ten million dollars were approved to set up design competitions to create and evaluate new programs, especially for middle and high schools. These initiatives are a step in the right direction, but much more needs to be done to build up a strong set of replicable models capable of working on a large scale. (See discussion of R&D, below.)

Of course, increasing the numbers of schools served or design teams' capacity to serve large numbers of schools makes no sense unless the quality and effectiveness of each program is maintained at each level of scale-up. Some process will be necessary to ensure that programs shown to be effective at a smaller scale are being implemented with integrity and continued effectiveness as the programs expand (see Slavin, 1997).

Much as the issue of capacity needs to be taken seriously, however, limited capacity today in no way implies that comprehensive reform models cannot serve very large numbers of schools without compromising on quality or integrity within a few years. Our own Success for All/Roots & Wings program has expanded by about 60% per year over a ten-year period. It is possible to anticipate that with support from government, foundations, and (in the case of the few for-profits) investors, both the number and capacity of replicable reform designs could grow to very large numbers within a few years. Extrapolating forward from 1999, a continuing growth rate as low as 30% would create a combined capacity among existing models to serve every Title I school in the U.S. by 2004-2005, when the next Title I reauthorization will take place.

2. Carry Out Rigorous Evaluations of Comprehensive Reform Models

Another major limitation of the current set of programs available to schools is the shortage of high-quality research done to evaluate their effects on student achievement (see Herman, 1999; Slavin & Fashola, 1998). Only a few of the programs have been compared to matched control groups; fewer still have had replicated evaluations; very few have been evaluated by independent third parties. At present, the practical definition of "proven" accepted by states in approving CSRD applications is very loose. Most of the seventeen programs listed in the Obey-Porter legislation only present anecdotal evidence, which means that they can give examples of individual schools that have improved in achievement, but have not been evaluated in formal experimental-control comparisons. Over time, rigorous evaluations must be done and standards for designation as "proven" must increase. A good starting place in the definition of standards of research adequacy and effectiveness is the review of research on comprehensive programs recently released by American Institutes for Research (Herman, 1999).

3. Adoption of Particular Programs Must Be Voluntary

It would be a terrible mistake for enthusiasm over proven, comprehensive reform designs to lead districts, states, or federal agencies to require adoption of particular programs or, in most cases, of any program at all. Teachers are professionals, and must have a choice in decisions as profound as the selection of a comprehensive reform model. Our Success for All/Roots & Wings model and most other New American Schools designs require a vote by secret ballot of at least 80% of school staff. Some mechanism like this is essential to ensure that teachers and other educators put their hearts and minds behind effective implementation of a given program.

4. Start-up Grants Are Needed

All comprehensive reform models have higher costs in their early years than in later years. These one-time costs are for training, materials, released time, and so on. A school's ordinary Title I funding, plus other readily available resources likely to continue over time, should be enough to cover long-term costs of implementing a given reform, but national or state Title I funds should be reserved to

provide to schools in the early stages of adopting comprehensive designs. The model for this is the Comprehensive School Reform Demonstration, which is making grants of at least $50,000 per school per year for up to three years. In addition to helping schools with start-up costs, grants of this kind provide a powerful incentive for schools to adopt proven programs and to come forward with their own resources to pay for costs not covered by start-up grants.

5. *The Shift to Comprehensive Reform Should Be Gradual*

It should go without saying that moving from the current situation to one in which very large numbers of Title I schools are selecting from among proven models needs to take place gradually, moving from success to success rather than risking failure by mandating programs or expanding faster than organizations developing comprehensive programs can build capacity without compromising on quality. This means that for many years, schools must be able to continue programs like the ones common in Title I schools today, and there must always be opportunities for schools to create and implement programs of their own design if they can show evidence that they are working.

6. *Quality of Implementation Must Be a Key Concern*

A comprehensive reform model is not like a pill schools can take to cure what ails them; it is only a tool that the school must use effectively and intelligently. Program developers must develop implementation benchmarks or standards, help assess schools' progress in achieving quality implementation, and share this information with the schools and their districts, as a means of ensuring that implementation quality of their program is high and improving. Research on what constitutes quality implementation of a given program and how districts can monitor and support high-quality implementation will be essential in informing this process.

Research and Development

A key assumption in moving Title I toward an emphasis on implementation of proven programs is that there is a knowledge base for effective practice, and in particular that there are mechanisms for the development, formative evaluation, third-party evaluation, and dissemination of replicable programs capable of significantly enhancing student success in Title I schools. Yet this mechanism does not currently exist. Of the seventeen programs listed in the Obey-Porter legislation or the twenty-four programs listed in the ECS review, for example, only five have benefited in any significant way from federal R&D funding. Direct Instruction and ALEM (an earlier form of Community for Learning) benefited from Follow Through funding long ago, Onward to Excellence and Community for Learning have been developed in federally-funded regional laboratories, and Success for All and the Talent Development High School were developed in a federally-funded research center (but since its inception Success for All has depended far more on private foundation funding than on federal funding). All of the other programs exist primarily because of private foundation funding; eight comprehensive designs exist because of New American Schools funding, which is no longer supporting development of new programs. Clearly, development and evaluation of new programs will not move forward at an adequate pace without a significant federal investment. New American Schools spent about $120 million over five years to develop eight comprehensive designs. Using this as a benchmark, the resources needed to develop and evaluate additional designs will be substantially greater than the $10 million recently allocated for this purpose by Congress.

As Title I changes to focus on research-based practices, a substantially greater investment in R&D will be needed. Funds will be needed to develop new comprehensive designs for elementary and secondary schools, as noted above. However, there are many other problems in need of R&D. For example, there is a need for research on programs in specific subject areas, such as reading and mathematics. In addition to development of basic instructional strategies, there is a need for research on specific strategies for children who have fallen behind, such as reading programs for secondary students who are performing far below grade level. There is a strong need to develop and evaluate effective bilingual and English as a Second Language (ESL) programs for the rapidly increasing population of children who enter school with limited English proficiency. Effective early childhood programs capable of helping disadvantaged children enter school ready to learn are needed; effective early childhood programs for English language learners are particularly lacking. Programs to reduce dropouts, to increase college-going among talented students from disadvantaged families, and to facilitate successful school-to-work transitions are desperately needed.

It is not only academic instructional programs that are needed for Title I schools. There is a need for effective means of involving parents and communities in support of children's learning, of

integrating health, mental health, and social services with education, and of dealing with such problems as truancy, behavior difficulties, and drug abuse. This does not mean that substantial Title I funds should be used for health or mental health services, but that Title I schools should have the capacity to help parents access services provided by other agencies. Effective programs for classroom management, school climate, and grouping are also needed.

Programs in most of these areas already exist, but most lack adequate evaluations in comparison to control groups by their developers, much less by independent evaluators. Even those that have been well evaluated may lack capacity to work at scale. Setting up mechanisms for third-party evaluations and scale-up is also essential.

Beyond the need for specific replicable programs, there is a great deal of research needed on factors that underlie effective practice in a variety of areas. For example, what are effective uses of paraprofessionals? What types of professional development work best? How can preservice and induction programs be able to contribute to improving teachers' skills and knowledge? What kinds of grouping and school organization strategies are most effective at different grade levels? How can transitions from home to school, elementary to middle school, and middle to high school be made likely to work well? What are effective approaches for children who speak languages other than English? What are effective after-school and summer school approaches? What local organizational structures best support initial implementation and eventual institutionalization of research-proven reforms?

Practical research and development of the kind that directly informs practice in Title I schools has been so rare and so poorly funded that an enormous job remains to be done in order to produce both effective programs and convincing answers to key questions posed by educators. What is needed is a substantial increase in research specifically focused on identifying effective practices in Title I schools. Approximately three percent of Title I funds should be added to the program to fund R&D on improving instruction and outcomes in Title I schools. At present, this would be approximately $240 million per year, a vast increase over current expenditures for R&D in all of education but a tiny portion of Title I. The need for this seems self-evident; how could it be argued that three percent of Title I should not be used to find how to make the remaining ninety-seven percent maximally effective? Obviously, most of whatever is discovered in research on Title I schools will also benefit non-Title I schools, so the $240 million proposed here should really be seen as an infinitesimal proportion of all federal and non-federal education expenses. Yet it could be the most important portion of all.

The research and development that would be necessary to support moving Title I toward proven programs are clearly a federal responsibility, and will need federal funding. However, this function might best be managed by a semi-independent agency, perhaps on the model of the Corporation for Public Broadcasting, NIH, or the Smithsonian. Educators and policy makers will need assurance that the R&D process is independent of current partisan politics or Department of Education policies. An entrepreneurial, flexible agency will be needed to aggressively seek out and promote promising practices, subject them to rigorous evaluation, and terminate work on programs that fail to produce desired outcomes or significant capacity for replication. Existing federal agencies might have oversight of a R&D entity of this kind, but they are poorly placed to have the flexibility, capacity, or independence necessary to accomplish this essential task.

Accountability and Assessment

Facilitating widespread adoption of proven programs will not solve all of the problems of Title I schools. There are several additional issues that should also be addressed in reauthorizing Title I.

One of these has to do with accountability. As noted earlier, changes in accountability were a major focus of the 1994 reauthorization, but many of the changes contemplated in the legislation were not implemented in practice (Citizen's Commission on Civil Rights, 1998). Recent studies find that implementation of standards and accountability mechanisms have relatively little impact on how teachers teach (e.g., Goertz, Floden, O'Day, 1996; Newmann, King, & Rigdon, 1997; Cohen & Hill, 1997). Still, standards and assessments do affect school and district policies, and for this reason it is essential that they be well-formulated, fair, widely accepted, and most importantly that accountability mechanisms based on them reward the right behaviors (and discourage counterproductive practices or policies). A few principles of effective uses of standards and assessments for Title I schools are as follows. (Note: Many of these are already in the Title I legislation but are not consistently implemented.)

1. *Assessments Used In State Accountability Programs Should Be Unbiased.*

This should go without saying, but there are still areas in which assessments are biased, particularly against students who are speakers of languages other than English.

2. *Assessments Should Be So Broad And Worthwhile That They Are Worth Teaching To.*

It is clear that teachers do "teach to the test" and that school and district policies, especially in high-poverty schools, may be influenced by what is tested. (For example, subjects such as creative writing, social studies, and science may be taught more in districts that assess these subjects.) Increasing breadth of assessment without having children sitting taking tests for weeks usually requires matrix sampling (testing each student on a different portion of the test.). But this can cause political difficulties because matrix sampling does not typically produce individual student scores. Increasingly, states are testing in every major subject in certain years, such as 4 and 8 or 3, 5, and 8. A better solution might be to test some subjects (such as reading and math) every year, and test other topics in different years. For example, if reading and math were assessed in every grade, writing in grades three and six, social studies in four and seven, and science in five and eight, and so on, the tests could remain manageable and still produce reliable student and school scores. Introducing the first reading test in first or second grade is particularly important to reward investment in early childhood and early reading interventions. These early grades tests should be given one-on-one by trained testers.

3. *Accountability Procedures Should Discourage Dysfunctional Strategies.*

Schools and districts under accountability pressure may adopt strategies that artificially inflate scores without improving learning. Examples include increasing retention rates (so that students are older when they take the tests); defining more students as learning disabled or limited English proficient, if these students are excluded from testing; failing to obtain makeup tests from absent low achievers; and teaching narrowly to a narrow test. All of these can be guarded against (see, for example, Slavin & Madden, 1991), but states and districts must be vigilant to ensure that high-stakes testing is not producing counterproductive policies or practices.

4. *Accountability Procedures Should Reward Growth.*

Knowing the substantial correlation between average student socioeconomic status and average student achievement, it is essential to avoid punishing schools for serving impoverished neighborhoods. This means that growth, not only levels of performance, should be the criterion for success in school accountability.

5. *Test Scores Should be Reported by Subgroup.*

A school could not be considered successful if it is failing with particular socioeconomic or ethnic subgroups. Schools should be required to disaggregate their data to show gains for all groups.

6. *Sanctions, Up to But Rarely Including Reconstitution, Should Be Applied To Schools that Are Persistently Low and Declining.*

Accountability means little if it does not have consequences. Schools that are doing a very poor job over time cannot be allowed to continue doing so. In general, the embarrassment inherent in being identified as a low-performing school is enough of a sanction to motivate change. Schools whose students are performing at low and declining levels should be offered professional development, invited to adopt proven programs, and given additional resources to help to help improve their outcomes (see Lemann, 1998; Slavin, 1998). However, if these measures are not effective, some combination of mandating a more rigorous educational program and the transfer or firing of principals or other staff may be necessary. Total reconstitution is rarely necessary and causes its own problems (having to do with the difficulty of hiring and training a whole new staff), but may occasionally be justifiable to put an end to persistently dysfunctional situations.

SCHOOLWIDE PROJECTS

Schoolwide projects are schools in which Title I resources can be used to benefit all children, not just those with the lowest test scores (as in non-schoolwide, "targeted assistance" schools). Schoolwide projects were possible but difficult to implement before the 1994 reauthorization, but since that time have become progressively easier to implement. As noted earlier, at present schoolwide projects are limited to schools in which at least 50% of students qualify for free or reduced price lunches.

Are schoolwide projects more effective than targeted assistance schools? There have been few head-to-head comparisons, and it is obviously important what programs are being implemented in each type of school (Wong & Meyer, 1998). However, there is much indirect evidence that favors schoolwide strategies. First, there is evidence from a reanalysis of *Prospects* data that indicates

significantly higher achievement in schools with a well-integrated, coordinated approach to curriculum, instruction, and remedial services (D'Agostino, Borman, Hedges, & Wong, 1998). This degree of school-level coordination is possible in targeted assistance schools, but is obviously much easier in schoolwide projects. Second, most examples of replicable Title I programs that have produced markedly improved student outcomes are inherently schoolwide projects. For example, the Special Strategies study (Stringfield et al., 1997) examined a variety of reputationally outstanding programs used in Title I schools. Those that produced the greatest achievement gains were our Success for All program (Slavin et al., 1996), and James Comer's School Development Program (Comer, Haynes, Joyner, & Ben-Avie, 1996). It is important to note, however, that not all schoolwide programs studied by Stringfield et al. (1997) were successful in increasing achievement; students in locally-developed (though still reputationally outstanding) schoolwide projects performed no better than controls, as did students in two other national programs. A separate study that compared Success for All to locally developed schoolwide projects also found that it was the nature of the schoolwide program implemented, not schoolwide vs. targeted assistance status, that made the difference in student achievement (Ross, Alberg, & Nunnery, 1998).

Evidence from a variety of sources would support the idea that schoolwide projects have greater potential for positive effects than non-schoolwide strategies, but this potential may or may not be realized, depending on the specific programs implemented. For example, many schoolwide projects continue to use Title I resources for remedial pullouts, classroom aides, and other traditional uses that have long been characteristic of non-schoolwide Title I programs (Puma et al., 1997). Others use schoolwide status to make modest reductions in class size, a politically popular choice but one unlikely to make a profound difference in achievement (see Slavin, 1994). Some take schoolwide status as a license to purchase anything at all, from janitorial supplies to playground equipment, expenditures that are clearly contrary to the law but occur nonetheless.

Still, there are few obvious drawbacks to schoolwide projects. There is nothing a targeted assistance school can do that a schoolwide project cannot; targeted assistance status is only beneficial, if at all, in keeping the school from simply absorbing Title I funds into its general operating budget, or trying to spread out services so broadly that they benefit no one. Yet the track record of both remedial pullouts and use of classroom aides is so weak (see Slavin, 1994) that there is little rationale for using federal regulations to largely restrict moderate-poverty schools to these uses. Further, due in part to widespread (and growing) residential segregation and the decline of bussing for racial integration, it is usually the case that students who receive services in targeted assistance schools are not very different in poverty background than those who do not (Kennedy, Jung, & Orland, 1986; U.S. Department of Education, 1993b). All of this argues for further expanding access to the schoolwide option. To ensure that schools are moving to schoolwide status for the right reasons, those with free lunch proportions less than 50% might be required to submit plans showing how schoolwide status will be used to improve teaching and learning, in particular to adopt proven programs and practices. Actually, a form of this policy already exists; school districts can request waivers to implement schoolwide projects in schools that do not meet the 50% poverty requirement. However, for schools with clear plans to use Title I dollars schoolwide to improve instructional outcomes, schoolwide status should be encouraged. Along with encouragement to use these resources for professional development, adoption of proven programs and practices, and other means of improving instruction and curriculum in the entire school, the freedom to use Title I resources to implement proven programs in the whole school is likely to produce greater learning by larger numbers of disadvantaged, at-risk children than investment in remedial resources. In fact, schoolwide projects may be particularly beneficial for moderate-poverty schools that receive relatively small Title I allocations. For example, $20,000 buys either one aide or an extraordinary professional development program for the whole school. About $50,000 buys either one pull-out teacher or enables the school to adopt a proven reading or math approach and implement it with high quality. The potential for positive impact seem much greater for the strategies that help all teachers do a better job of teaching all students all day, but if a school staff in a schoolwide project believes that the teacher or the aide is a better investment, they should still be able to make this choice.

Professional Development

The 1994 reauthorization of Title I also emphasized, at least at the rhetorical level, investment of Title I resources in high-quality professional development for all teachers in Title I schools (not just Title I teachers). It is unclear how much this provision caused schools to increase professional development, or what the quality or

impact of Title I-supported professional development has been. Leaving aside the professional development that is central to all comprehensive reform models, routine professional development often ends up being workshops on generic topics (e.g., multicultural education, multiple intelligences, or cooperative learning) with little classroom followup, few materials coordinated with the inservice, and few expectations that teachers will actually change their practices as a result of the inservice. Much inservice, especially coursework provided by universities or teacher development centers, takes individual teachers out of their school contexts and then expects them to return to their school and somehow implement what they have learned by themselves, with little if any internal or external support. Often, the inservice provided to teachers is on topics that the teachers did not ask for, that do not meet their needs, interests, or contexts. As a result of these and many other problems, professional development only rarely has a discernable and lasting impact on teachers' behavior or student outcomes (Orlich et al., 1993).

This is not to say that general professional development cannot have beneficial impacts, and well-designed professional development programs must be part of any plausible plan to improve the outcomes of Title I. For example, traditional types of professional development can be useful in building teachers' subject matter knowledge or understanding of general pedagogical principles, and teacher-by-teacher inservices with extensive followup can help teachers develop generic skills, such as classroom management methods, cooperative learning strategies, or means of including students with disabilities. However, to make a more profound and widespread difference in student achievement, more comprehensive and schoolwide professional development strategies, such as those typical of comprehensive reform models, are likely to be needed.

Professional development, both as part of program adoption and as a separate investment in improving teachers' skills and knowledge, should become an essential focus of Title I. The Commission on Chapter I (1992) recommended a set-aside of twenty percent of Title I funds for professional development, one among many of the Commission's recommendations that was not adopted by Congress. Whether or not a percentage is specified, Title I needs to continually promote the idea that quality professional development is a favored investment of Title I funds. However, uses of professional development funds should be focused on programs that have the following characteristics.

1. *The Practices or Information Introduced in Professional Development Programs Should Be Based on Rigorous Research.*

Ideally, this means that there should be evidence that students of teachers trained in a given method or those who use given materials achieve significantly better than similar students in a control group using typical methods or materials. At a minimum, the methods or materials should be based on the best available evidence of what works (even if there is no definite evidence that a particular training program that incorporates effective principles produces enhanced outcomes).

2. *Effective Professional Development Involves Extensive Followup.*

Someone, be they program experts, coaches, or peer coaches, needs to observe teachers implementing new methods and give them feedback on their implementation and ideas for improving it (see Showers, Joyce, & Bennett, 1987). Even the very best of training usually fails to transfer to classroom practice unless teachers are given assistance in making this transfer for their own classrooms.

3. *Professional Development Should Be Given to All Staff in a School or to a Recognizable Subgroup Within the School (such as the math department or all kindergarten teachers).*

It is difficult for a teacher to go alone to an inservice, no matter how good, and then return to the classroom and implement new methods. Training is much more likely to transfer to practice and be sustained over time if teachers take on a given method as a group, preferably as an entire school.

4. *Adequate Time Is Needed for Training, Coaching, and Discussion.*

One of the biggest difficulties in providing quality professional development is finding enough time to do it (Purnell & Hill, 1992). Teachers often don't like coming in on vacation days (even if they are paid), and administrators and parents don't like sending children home or replacing teachers with large numbers of substitutes. Building significant numbers of days for professional development into the school schedule, both before school opening and during the school year, is the best solution, and can be paid for with Title I funds, but may still be politically difficult.

5. *Teachers Need to Choose Their Inservices as a Team.*

Teachers, like other professionals, are unlikely to put energy, enthusiasm, and creativity into any program that they feel was imposed upon them. Teachers and other educators should have opportunities to review a variety of options for improving student outcomes, visit schools using promising programs, examine materials, view video tapes, and then make unpressured choices among effective alternatives (Showers et al., 1987).

6. *Outcomes of Professional Development Should Be Assessed.*

At a bare minimum, it is essential to include in a professional development plan some means of determining if implementation has taken place and is of high quality. Providers of professional development services should make available implementation benchmarks or observation checklists to help principals, district officials, and the teachers themselves know whether or not a given program or practice is being implemented as intended. Followup visits by professional developers and/or schools or district experts should use these implementation benchmarks to inform school staffs where they stand in terms of implementation and how they can improve, and to hold professional developers themselves accountable. Ideally, student achievement should also be monitored and reported as the ultimate indicator of the effectiveness of a given inservice program. Of course, routinely administered state or local assessments are likely to provide this information, but only on an infrequent basis; curriculum-based measures more closely tied to the material being taught and given every few weeks or months are far more timely and useful as indicators of the impact of professional development services.

Maintain Direct Services to Children

The foregoing discussion is not intended to imply that all or even the majority of Title I funds should go into professional development or other expenses of adopting proven programs. Instead, most Title I funds should go into school-based personnel, as they do now. However, the functions of these personnel should change in line with the requirements of proven programs and in line with research on effective practices. For example, there is evidence to support changing paraprofessionals' roles away from serving as classroom aides and toward providing one-to-one tutoring to children who are struggling in reading or math (Slavin, 1994; Wasik & Slavin, 1993). There is evidence to support the need for early intervention, such as providing high-quality preschool programs for three- and four-year-olds, followed up by effective instruction in the early elementary school years (Karweit, 1994; Reynolds 1998). In upper elementary, middle, and high schools, Title I staff can provide targeted remedial services, tutoring, study skills instruction, and dropout prevention assistance (Fashola & Slavin, 1998). All comprehensive reform models have specific staffing requirements; for example, most require a full-time facilitator or coordinator in each school. Many require tutors, family support staff, additional teachers for various purposes, computer coordinators, and so on.

One area in which an expansion of direct services may be needed is for after-school and summer school programs. Of course, Congress has already allocated substantial resources to after-school programs, through the 21st Century Learning Communities Program, and President Clinton has recently proposed further increases in that initiative. A national movement away from social promotion, also advocated by the Clinton Administration, is greatly increasing the need for after-school and summer school programs, as an alternative to massive retentions. However, any expansion of after-school and summer school programs should be based on research on effective strategies. At present, there is very little research on after-school programs, and few replicable models (see Fashola, 1998). Even less is known about effective summer school programs. In a climate in which large numbers of children may have to repeat a grade because they attended an ineffective after-school or summer school program, developing and evaluating replicable models is essential.

Policy Imperatives

Title I needs a substantial refocusing if it is to have a significantly greater impact on the education of students placed at risk of school failure. Some of the policy imperatives that flow from the issues discussed in this chapter are as follows.

1. Add guidance to states, districts, and individual schools encouraging schools to adopt proven programs.
2. Provide grants to Title I schools, especially schoolwide projects, to help with start-up costs of adopting proven, comprehensive programs and to serve as an incentive for schools to adopt these programs. Increase the availability of these

grants in line with the growing national capacity of organizations providing proven designs.

3. Increase the number, quality, and capacity of proven programs. Hold design competitions to fund the creation of new designs capable of working in Title I schools, commission rigorous third-party evaluations of existing and new designs, and provide funding to non-profit organizations that develop and disseminate proven programs to help them improve their programs and build capacity for dissemination. Research and development of programs and practices for Title I schools should be greatly improved and funded at a level set at approximately three percent of all Title I funding.

4. Improve assessment and accountability procedures for Title I schools to reward schools making gains toward demanding standards, assist schools that are not making adequate gains, and restructure schools that are low and declining. Ensure that assessment/accountability procedures do not reward retention, special education placements, narrow teaching or other counterproductive policies.

5. Further expand opportunities for schools to become schoolwide projects, especially as comprehensive reform designs become increasingly available.

6. Increase investment in high-quality professional development, even beyond adoption of comprehensive designs. Set standards for effective professional development emphasizing teacher choice, classroom followup and coaching, whole-school focus, and assessment of implementation and outcomes.

Conclusion

Title I can be much more than it is today. While the majority of Title I funding should continue to support essential professional and paraprofessional staff in high-poverty schools, both existing and new Title I funds should increasingly support schools in adopting effective instructional programs and improving professional development. Children in Title I schools need six hours or more of high-quality instruction every day, not forty minutes of remediation. It is time that Title I became the engine of reform in high-poverty schools, helping them adopt programs based on the best research, development, and dissemination practices available. Developments in recent years have made possible a new vision of what Title I can be; all that remains is for us to embrace that vision, and then make it a reality.

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OLDER STUDENTS ALSO NEED MAJOR FEDERAL COMPENSATORY EDUCATION RESOURCES

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High school students rarely receive any federal compensatory education resources although many of them badly need extra help and would greatly benefit from it. This case is based on:

1. financial statistics that show most federal funds go to elementary grades when serious dropout and achievement problems persist in the upper grades;
2. research evidence that contradicts the assumption that building an early foundation of learning is sufficient, or that it's "too late" for low-achieving high school students to catch up;
3. a new paradigm for a human-development framework for compensatory education that takes an adolescent's ability to make meaningful progress into account;
4. evaluation evidence that specific organizational forms and classroom practices in middle and high schools can have a positive and significant impact on student achievement and dropout rates.

SHORTCHANGING OLDER STUDENTS

The largest federal compensatory education program has primarily been aimed at elementary schools. Recent intentions to reach a more balanced distribution across the grades have often not been accomplished in large urban districts due to the legislative directives in use.

Title I of the Elementary and Secondary Education Act (ESEA) is by far the largest federal program for funding schools that enroll students from low income families. In fiscal year 1998, it offered more than $7 billion to states and districts, distributed on a formula basis. However, during the 1993-94 and 1994-95 school years, only 8 percent of students receiving Title I aid were in grades 9 through 12, even though nationally 28 percent of public school students are in these four grades, according to the U.S. Department of Education's Office of Elementary and Secondary Education.

There was an indirect effort in the most recent re-authorization of ESEA to redirect more Title I resources to high schools. The law required that all schools with poverty rates of 75 percent or higher receive some Title I funds, regardless of their grade level, before any other schools in that district receive Title I funds. However, as Table 1 shows, except for an increase in the proportion of Pre-K and Kindergarten participants, no other change has occurred in the distribution of students at different grade levels in schools receiving Title I support. In examining data from recent years, we observe that the total number of students participating in Title I has nearly doubled over the past decade but the percentage of Title I students in grades 10-12 has remained a constant 5 percent.

Other ways of calculating the recent allocation of funds also show that Title I remains primarily an elementary school program. When the allocation to schools rather than students is examined, only 16 percent of all 1997-98 Title I funds were received by secondary schools covering grades 7-12, (U.S. Department of Education 1999) which actually enroll about 43 percent of the students. When the percentage of all secondary schools that receive Title I funds is calculated, it is reported that the percentage declined from 36 percent in 1993-94 to 29 percent in 1997-98, even though virtually all (93%) of the high-poverty secondary schools with poverty rates of 75 percent or higher received Title I funding in 1997-98 (U.S. Department of Education, 1999). But relatively few secondary schools qualify as high-poverty schools, so the legislative requirement that these schools must now be covered by Title I has not improved the overall distribution of Title I funds to older students.

In some large urban districts with high overall poverty rates, the Title I legislative directive to cover all high-poverty schools did not result in any high schools receiving Title I funds. In such districts, no high schools will report the 75 percent poverty level where Title I participation is mandatory, because many eligible high school students are reluctant to submit applications for free or reduced-price lunch, which is the usual measure of poverty. Even without

TABLE 1

PERCENTAGE DISTRIBUTION OF CHAPTER I/ TITLE I STUDENT PARTICIPANTS BY GRADE SPAN, 1992-1997

	School Year*			
	1992-93	1993-94	1994-95	1996-97
Pre-K and Kindergarten	9	10	10	12
Grades 1-3	40	40	40	37
Grades 4-6	29	29	29	30
Grades 7-9	16	16	16	15
Grades 10-12	5	5	5	5
Ungraded	*	*	*	1
Total	100	100	100	100
Number (100%=)	6,396,486	6,554,280	6,671,821	11,058,857

Source: U.S. Department of Education, Office of Elementary and Secondary Education

*Data is not available for 1995-96. Data for 1996-97 have not been officially released as of January 1999.

the free-lunch stigma which causes underreporting of high school poverty levels, high schools that enroll students from larger neighborhood catchment areas will have lower overall poverty rates than smaller elementary schools serving concentrated poverty neighborhoods. These schools draw from a broader geographical area and are more likely to have greater diversity in SES, compared to elementary schools. Also, poorer high school students are more likely to drop out before graduating, which gives the high school an even lower poverty rate. As a consequence of these factors, Title I funds in many large urban districts run out for high poverty elementary schools before they even reach eligible high schools. Other poverty estimation procedures can be used to get more accurate statistics for high schools, such as projections from feeder school data or Census/CPI-based neighborhood figures, but these approaches are rarely, if ever, used. It appears unless district leaders in many large urban districts place a priority on allocating Title I funds to high schools, the existing Title I personnel and services in elementary schools are likely to continue their hold on the resources. Congress and agency regulations need to be more specific in directing more funds to secondary grades, by requiring the use of more accurate estimates of school poverty levels or by mandating a minimum percentage of funding for the four high school grades, to bring the current 8 percent of Title I resources that go to high schools closer to matching the 28 percent of public school students in high school.

Other federal sources of support available to both elementary and secondary schools, such as programs operated by the Office of Bilingual and Minority Language Affairs, have also placed their major focus on elementary education, although the exact amount of money distributed to elementary schools vs. secondary schools is difficult to determine. Also, while the new Obey-Porter legislation, the Comprehensive School Reform Demonstration program, has provided $125 million in state competitive grants to high-poverty elementary and secondary schools, early indications are that mostly elementary schools are applying for the funds.

The largest source of federal funds that winds up in high schools is the Perkins Vocational and Applied Technology Education Act, which allocated more than $1 billion in Fiscal Year 98. Although Perkins Act funds could be also used for comprehensive high school reform, this source of support continues to be used primarily for traditional vocational education offerings and services, with some efforts devoted to developing "tech-prep" programs that coordinate vocational classes with core academic classes.

In states that operate their own compensatory education funding programs that target high schools, these funds become the major, though limited, source of extra resources for high-poverty high schools. It is

difficult to find compilations of data on these programs, but the total amount of funding tends to represent only a small fraction of the federal Title I resources provided to elementary schools.

The Need is Great

The enormously high dropout rates and extremely low academic achievement levels in non-selective large urban high schools are not widely appreciated by policy makers. This crisis in high schools has been masked by national average dropout statistics that fail to reveal the alarming problems in large urban high school with high minority student populations (*Education Week*, 1998).

Unless data is disaggregated to show the problems in large urban high schools, it appears that the dropout gap has nearly closed between white and African-American young adults aged 16 to 24. Only 8 percent of white individuals and 14 percent of African American individuals in this age group do not have a high school diploma. But Hispanics of the same age still lag further behind, with 28 percent of Hispanics in this age group lacking a high school degree (National Education Goals Panel, 1994). In fact, however, these statistics are deceiving, since many non-selective high schools in urban and high poverty districts lose more than half of their entering ninth graders before they reach graduation. In the lowest-performing high schools in many cities, two-thirds or more of entering students never finish and earn their diploma (Balfanz & Legters, 1998).

Recent tabulations from the U.S. Department of Education's Common Core of Educational Data indicates that the high school dropout crisis is widespread in the nation's 25 largest districts, especially in schools enrolling large numbers of race and ethnic minority students (see Table 2).

To estimate the percentage of ninth grade students who drop out before high school graduation, the current enrollment in the twelfth grade is divided by the current ninth grade enrollment to estimate the completion rate, which is then subtracted from 1.00 to arrive at a projected dropout rate.[1] For example, a school having 600 twelfth grade students and 800 ninth grade students would have a projected dropout rate of 25 percent. Balfanz and Legters noted schools where there are fewer than half as many twelfth graders as ninth graders, for a projected dropout rate of 50 percent or higher. Table 2 shows that nearly half of the high schools in the 25 largest districts have projected dropout rates of over 50 percent and the matter gets worse for large schools enrolling large proportions of minority students. For large schools with half or more of their student body from minority backgrounds, 52 percent have a projected dropout rate of over 50 percent. Even more alarming is the finding that 71 percent of the schools whose student population is 90 percent minority have a projected dropout rate of more than 50 percent.

The serious need is also evident in the distribution of high school students' academic achievement scores. In each of the academic subjects tested periodically by the National Assessment of Educational Progress, African-American and Hispanic students continue to score well below white students, and students whose parents' highest level of

TABLE 2

PROJECTED DROPOUT RATES FROM HIGH SCHOOLS IN THE 25 LARGEST SCHOOL DISTRICTS BY SCHOOL CHARACTERISTICS

School Characteristic	Total Number of High Schools	Percent with 50-100% Dropouts
All Schools	590	47%
Schools with 900+ Students	451	45%
Schools with 900+ Students and 50% or more minority	386	53%
Schools with 900+ Students and 90% or more minority	183	71%

National Center for Education Statistics, Common Core Date 1992-93
Source: Balfanz and Legters, 1998

education goes beyond high school score significantly higher than those whose parents have lower educational attainments. Although the long-term trend has shown a gradual narrowing of some NAEP achievement gaps, especially score differences between African-American and white students, major differences still remain and little or no further progress has been observed in the most recent years (Campbell et al., 1997).

FAULTY ASSUMPTIONS

The concentration of federal compensatory monies in the elementary grades is often justified or rationalized through two assumptions that are open to serious question.

The "Inoculation" Assumption

One assumption is that concentrating compensatory programs in high-poverty elementary schools will help produce competent readers by an early (third) grade, in turn setting the foundation for students to successfully move through good programs in the middle and high school grades without any further extra help. By this reasoning, early intervention to prevent reading problems is the "inoculation" that poor students need to avoid failure in later grades. The competing view is that "booster shots" of compensatory support will be needed by many poor students to help them capitalize on early reading skills and achieve at higher academic levels by the middle and high school years.

Evaluations of early childhood and elementary grade interventions have frequently found that early achievement gains tend to fade away as students move on to later grades. Disadvantaged students participating in early compensatory education programs who moved ahead of comparable non-participants often become indistinguishable from them in following years if the extra help is not continued (Natriello, McDill & Pallas, 1990.)

The correlation between students' early reading scores and probabilities of dropping out is frequently cited as evidence for concentrating extra educational resources in the early grades for students from high-poverty neighborhoods. Studies used to argue for early intervention have reported a high correlation between third grade reading scores and high school dropout rates (Kelly, Veldman & McGuire, 1964; Lloyd, 1978). But instead of assuming a direct causal connection that a major increase in early reading scores will be sufficient to produce major decreases in later dropout rates, the continuing role of another variable that is strongly related to early test scores and dropout rates – student poverty – should be fully acknowledged. We would expect the high-poverty levels of some students' homes and neighborhoods that contributed to low elementary grade achievement – and that calls for extra school resources to offset problems of poverty – will continue to weaken students' chances to achieve well in later grades, and will require compensatory assistance for them to succeed at more advanced middle and high school learning goals.

The Triage Assumption

Another assumption on which the concentration of federal funds is placed in the elementary grades is that it is "too late" to remediate major deficiencies in reading and math skills that students bring into high schools. Under this view, students who have fallen multiple grade levels behind in basic academic skills at the beginning of high school have little chance of closing these gaps soon enough to take and succeed in challenging high-level courses in English, Math and Science. The best that can be done, according to these critics, is to try to move these students toward much more modest goals of academic achievement, even if it means holding them back to repeat high school grades for one or more years.

"Triage" is the battlefield process of sorting casualties for first-aid and evacuation for treatment, so that the least badly wounded will have a better chance of survival. Those in education who believe it is unrealistic to expect low-achieving high school students to catch up enough to benefit from high-level English and Math courses may make a comparable triage decision to channel most federal compensatory education funds to younger students who have yet to fall far behind grade level.

However, there is growing evidence that extra help for low-performing high school students can produce significant learning gains that open the doors to enrollment and success in higher level high school courses in English, Mathematics and Science. Effective extra help usually entails both additional time in basic academic courses in the early high school grades and new approaches to motivate students, build their confidence in basic subjects, and provide them with the skills they need to move on to advanced courses in the major subjects.

Examples of evidence that great strides can be achieved in closing achievement gaps of low-income and minority students in the middle grades can be provided from the work at Johns Hopkins University in developing the Talent Development Model for comprehensive reforms of middle school and high schools. Changes in the school organization under

this model at Patterson High School in Baltimore that divided the school into smaller schools-within-a-school, and provided a multi-faceted transition program for ninth graders was shown to improve school safety and climate as well as student attendance, promotion rates and test scores, in comparison to matched schools without the reform package (McPartland et al., 1998). The English instructional component of the model, called Student Team Literature, that uses cooperative learning formats to develop students' reading comprehension strategies was found to raise the reading scores of low-income students in 21 out of 25 classes of two closely matched demonstration and control schools (Mac Iver et al., 1997). The Math instructional components of the Model include providing extra instructional time for low-achieving students using technology and cooperative learning methods, which have proved to be effective in closing gaps of low-income students (Mac Iver et al., 1998). New Transition Math Courses before Algebra I using contextual learning activities and cooperative learning groups to rekindle interest in the subject and remedy deficiencies in prior preparation have been evaluated positively for disadvantaged high school students. (Gamoran et al., 1997).

A Human Development Paradigm for Compensatory Education Support

A new paradigm is called for in thinking about compensatory education, one that considers the realities of human development rather than establishing a misleading dichotomy of support for prevention versus remediation.

A frequent argument for concentrating compensatory education resources in the early grades is that it is far better to prevent achievement difficulties in reading and other core subjects than to remediate shortcomings after they have been allowed to begin. This argument has been made with various appealing metaphors of investments in health and safety issues that can nip potential problems in the bud before expensive remediation approaches become necessary (Slavin, 1994). While it is true that educational achievement is a cumulative process that requires a firm foundation in the formative years, the prevention/remediation framework is inappropriate for the different levels of skills and sources of motivation that come into play at various stages of human development.

Human Development Framework

Continuing interventions with extra support across the grades from early childhood through the high school years will be necessary for many students from high-poverty families and neighborhoods to provide the stimulation and motivation for achievement that may be missing from their environment at each stage of learning.

The skills in basic academic subjects take on new dimensions as the learner matures across the grades. At first, reading requires decoding skills and vocabulary development to recognize words and sentences from the printed page. But many students who have mastered these rudimentary skills still have difficulty applying reading comprehension strategies to engage with complex written materials and to read for critical understanding. The learner from a poor family and neighborhood, where frequent reading of a variety of materials is not the norm, will likely need extra help not only with the rudimentary reading skills of the early grades, but also with the higher-order reading comprehension strategies and competencies of the later grades.

Similarly, in mathematics, writing, science and social studies, the higher-order competencies for older learners are a different category of learning challenges, not just more complex versions of the initial skills in earlier stages of the subject. For example, mathematical reasoning to frame practical problems for quantitative solutions and to explain alternate routes to an answer is of a different order from the arithmetic calculation skills learned in the early grades. It is true that learning early skills is difficult for some students and requires extra resources, but it is just as true that extra school resources will also be needed for reaching the higher-order competencies.

Students are also motivated to learn in different ways at various stages of human development. Older students will approach learning assignments with questions about their usefulness for personal interests and goals, with sensitivity about how their peers will respond to their efforts and with attention to how much initiative and creativity they can bring to the tasks. Younger students may be sufficiently motivated by their opportunity to earn recognition and praise from their teacher and by a task challenge that is within their reach for success. Learning activities need to be designed to be developmentally appropriate in their sources of motivation as well as their skill content.

Among specialists in early school learning, there is an appreciation that preschool programs alone – no matter how strong and effective for children from high poverty backgrounds – cannot prevent failure in the following early elementary grades without continuing intervention into the elementary grades

for some students (Karweit, 1994). Research at other grade levels also shows that the impacts of early interventions tend to fade or disappear after a year or two, if educational reinforcements are not continued to offset the disadvantages of high poverty family and neighborhood conditions (McDill, 1992; Natriello, McDill & Pallas, 1990). In the same way, compensatory education policy should adopt a human development framework that acknowledges a continuing need across the elementary, middle and high school years for many students from high poverty circumstances that continue to compensate in school for other weak sources of stimulation and motivation for learning.

How Compensatory Funds Can Be Effectively Used in High Poverty High Schools

Research on effective high school reforms identifies major areas in which federal compensatory education funds could have significant effects in high poverty areas. These include funds for facilitating (1) changes in school organization to create environments that solve student attendance and motivation problems, and (2) changes in classroom instruction to provide learning activities that close achievement gaps and prepare students for advanced courses.

School Organization

School organization reforms are needed in many large, non-selective urban high schools to address the issues of student anonymity and apathy that lead to poor attendance and dropping out. (National Association of Secondary School Principals, 1996). Student anonymity occurs when schools are too large and departmentalized for teachers and students to get to know one another well and develop respectful and caring relationships. Student apathy arises when a program of studies is assigned to them that has little or no connection to their own interests and career plans.

The following school organization changes have been found to be effective (Fashola & Slavin, 1998; Lee, Bryk & Smith, 1993):

- Several smaller, self-contained schools within the larger school, each with its own management team, faculty and support staff occupying a separate part of the building with its own entrance and laboratory classrooms.
- A separate ninth grade unit using interdisciplinary teams of teachers who share the same students and focus on solving individual student problems of absenteeism, discipline and achievement.
- A single adult Advisor-Mentor for each student, staying together through multiple years for support and encouragement.
- A career focus for each student's program of studies chosen by the student based on extensive self-awareness and career orientation activities. Upper level Career Academies can be the schools-within-the-school that fulfill this goal of bringing coherence and relevance of the curriculum to each student.
- Extended daily 90-minute class periods to cover four courses in each of two 18-week terms during the school year, to minimize the number of different students for each teacher during the term as well as the number of teachers per student. Less time needed for passing between classes also reduces the occasions for discipline problems.

When thoroughly implemented, such school organization reforms have been shown to dramatically improve school safety and climate, teacher-student positive relationships, and student attendance, all of which contribute to higher course passing and promotion rates (McPartland et al., 1998; Kemple, 1997).

Title I funds or other supplemental resources are needed for on-site facilitators to help school faculties plan for appropriate ninth grade and career academies, including the scheduling of space, faculty and students. These resources can also help pay for professional development workshops that include regular follow-ups on the use of the extended class period and of teams and mentors to effectively deal with individual attendance, discipline and achievement issues. Support is also needed for materials and activities to assist students in organizing their career interests and making a good academic choice.

Classroom Instruction

Research on student achievement in the high school grades had shown that offering more challenging courses to all students raises average performance (Alexander & Pallas, 1984), but without extra support and assistance, a significant proportion of students will not be successful in these demanding courses as a result of poor prior participation (College Board, 1990).

More recently, research is demonstrating that new approaches to curriculum and instruction can help all students achieve high level learning goals in non-selective high schools whose students have a wide diversity of prior preparation. These approaches include (a) flexible use of time and resources so the students who most need extra help can get it; (b) learning activities in the major academic subjects that build on student experience and "real world" issues to actively engage students in reaching high achievement standards; (c) increased access to technological devices and tools to pursue ambitious learning projects; and (d) direct instruction for students in study skills, social skills, and technology skills so they can succeed in assignments requiring teamwork, complete long-term projects and use modern information-retrieval and word-processing technologies.

The curriculum and instruction reforms that can meet the concerns for high schools include the following:

- Offer a Strategic Reading course for high school students who still are non-readers or who only read at a low elementary grade level, using methods and materials that are attractive to young adults which directly or indirectly build the phonetic decoding and vocabulary skills they need. (Soloman, 1992).
- Provide a "Transition to Advanced Mathematics" course in the ninth grade sequence which includes contextual learning activities in cooperative-learning formats to ready students for their later high-level mathematics courses. (Alper et al. 1998; Gamoran et al. 1997; Stetzer, 1993, Usiskin, 1997).
- Provide reading comprehension and writing process instruction in a cooperative-learning format with direct instruction, modeling and practice of higher order strategies. (Alfassi, 1998; Newman, 1992).
- Provide a "Freshman Seminar" course that incorporates active learning experiences to develop study skills, social skills and technology skills for success at complex learning tasks, and awareness and informational activities for career and college choices. (Knapp & Associates, 1995).
- Blend academic and career materials in core courses with problems, materials and applications drawn from different career clusters for each major subject. (Grubb, 1995).
- Create electives and out-of-school learning experiences that provide connections between core academic subjects and students' career interests.

Significant extra resources from Title I as well as state and local funding are needed to implement curriculum innovations that will give high-poverty students the extra help and new approaches they need to succeed in demanding high school courses. Funds are needed to hire staff to train existing teachers in contextual-learning activities, and to support on-site facilitators who follow up workshops with in-class support. Materials to support contextual learning activities are needed in some cases to supplement existing texts. Some schools need funding to add time to the school program or to obtain instructional technology equipment to enhance their remedial and contextual offerings.

Meeting state and local standards

New standards for high school student academic achievement from federal state and local education agencies provide an important context for seeking additional compensatory education funding for the upper grades.

Following the national attention to academic requirements from "*A Nation at Risk Report*" more than fifteen years ago, most states have raised their course requirements for high school graduation and have mandated higher student testing standards (Griffith, 1996). Recently, states such as Maryland and New York are developing and implementing high-standards achievement tests in each major high school subject where course credit towards a high school graduation diploma may be at stake. If a state is ready to withhold basic education credentials from students who are unable to pass official achievement tests, it should be prepared to provide the extra resources that may be required for preparing high school students to meet these standards even when they enter secondary grades with poor prior preparations. The continuing absence of major compensatory education resources for high school students appears as a basic contradiction to government's call for high standards, in light of growing evidence that costly additional course time and revised learning activities in core high school subjects are needed, and can help raise most students' achievement to these high standards.

Bringing a Balance to Compensatory Education Funding

There ought to be enough federal education resources to serve all students placed at risk for education failure across early, elementary, middle and high school grades, but it is unlikely that major funding increases will appear to do so. Nevertheless, it is important to move strongly toward a more balanced investment of federal education resources across the grades, so the positive effects of the current worthwhile assistance in early and elementary grades do not fade away as these children grow older and so that older children who need extra help do not fail to graduate from high school with strong personal skills for further education and later demanding occupational roles.

Movement towards a better balance can be achieved by directing all growth in Title I over the next few years to the secondary grades. In addition, a legislative mandate that each state direct a fixed minimum percent of Title I funds toward the high school grades 9 through 12 – say 20 percent – would prevent existing officials with a self-interest in obtaining extra funding for elementary grades from hoarding more than their fair share of the available federal resources.

The current staggering loss of potentially well-educated human talent due to dropouts and low academic achievement by high school students from poverty backgrounds will not be halted until extra help is provided at each stage of the human development process from early childhood through young adulthood. Dependable comprehensive school reform models are becoming available at each grade level to assist every student to meet the sequence of learning challenges as they grow up. Bringing a better balance of federal compensatory education funding across the grades is required to give needy students the extra help for successful learning at each stage of their human development that will cumulate into the high levels of skills and competencies required in today's communities and economy.

Notes

[1] Because the ninth grade enrollment figures include some repeater students who have been left back from the previous year, our statistics are somewhat higher than the actual dropout rate of entering ninth graders who do not progress to high school graduation. Thus, the ratio of twelfth to ninth graders combines the problems of dropouts and failures in the ninth grade.

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NECESSARY DISTRICT SUPPORT FOR COMPREHENSIVE SCHOOL REFORM

SUSAN BODILLY AND MARK BERENDS
RAND

SUMMARY

New American Schools (NAS) was founded by business leaders in 1991 to help existing schools transform themselves into high-performing organizations. To do so, it has supported "design teams" of experts who have developed and tested comprehensive models for school reform that emphasize the transformation of the entire school. It is now working to "scale up," or extend these models to a critical mass of schools. Today NAS is helping approximately 1,000 schools across the nation work with design teams to implement these research-based reform models.

RAND has been evaluating the New American Schools initiative since 1993 and began an evaluation of the "scale-up" phase in 1995. This evaluation uses both quantitative and qualitative methods to understand the degree to which the designs have been implemented, what has helped or hindered their implementation, and the academic progress of students and schools. This paper concentrates on findings from 40 case studies of school-level implementation, to highlight the important role districts play in impeding or enabling comprehensive school reform. We supplement these case studies with data from a survey of principals and teachers in 130 schools implementing NAS designs. *These findings indicate that comprehensive school reform can only be implemented successfully when districts*:

- Support appropriate matches between design teams and schools;
- Adequately fund design-based assistance;
- Provide additional support to secondary schools in their efforts;
- Convince school personnel of the centrality of the effort and its stability; and
- Provide a conducive regulatory environment.

Based on findings from this evaluation, we argue those reforms of a similar nature, such as Title I schoolwide programs and Obey-Porter schools, can be implemented successfully only with significant changes in district-level policy and support. The federal government will need to take an active role in encouraging districts to adopt practices that are supportive of its own strategy of expanding the use of schoolwide programs. In addition, the federal government must *clarify* what constitutes comprehensive school reform, *evaluate* the efficacy of the approach, and *document* the need for a supporting infrastructure to ensure implementation.

INTRODUCTION

In 1991 business leaders using private funds created New American Schools (NAS), a private nonprofit organization dedicated to supporting the development, testing, and scale-up of design-based, comprehensive school reforms. RAND has been evaluating and reporting on the NAS initiative since 1993.[1] In 1995, RAND began an evaluation of the scale-up of NAS designs to many schools. [2] This longitudinal evaluation of the scale-up phase covers years 1995 to 2000 and relies on both quantitative and qualitative methods. [3] It explores the level of implementation in NAS schools; barriers to implementation; changes in teacher behavior, attitudes, and perceptions; and changes in school and student outcomes. [4]

The purposes and approaches of NAS and its design teams are the same as those for "schoolwide" Title I programs[5] and the Comprehensive School Reform Program also known as Obey-Porter.[6] Each intends to improve student and school performance by schools adopting a unified, coherent approach, rather than adding a fragmented collection of programs or investing in personnel for pull-out programs that only reach a small group of students. Each intends to serve all of the students in a school, not just subgroups of students within the school. Thus, findings on NAS and its attempts at whole-school change can help efforts to improve Title I and the Comprehensive School Reform Program.

This paper applies research findings from the 1995 to 1997 period of our evaluation of NAS to the current federal initiatives. The paper concentrates on findings to date concerning district-level policy and its impact on the implementation of comprehensive school reforms. In particular, we argue that

comprehensive school reforms can only be attained with significant changes in district-level policy and practices. The reader should note that the following discussion is based on an analysis of the degrees to which schools have implemented NAS designs. It does not address the changes in student achievement or school achievement associated with implementation of a design. While an outcome analysis is part of the RAND evaluation of NAS, these data are not yet available.

In making these arguments, we first briefly describe NAS and the demographics of the schools that have adopted NAS comprehensive school reform designs. Second, we briefly describe the general findings of the RAND evaluation to date. Third, we specifically discuss the findings concerning district-level support and its impact on implementation of comprehensive school approaches. Finally, we draw policy implications for making improvements in Title I.

NEW AMERICAN SCHOOLS

NAS was created in 1991 as a private, nonprofit organization with funding from the private sector. NAS ran a highly publicized competition for "break the mold" designs for schools that attracted almost 700 proposals from design teams throughout the country. In 1992, NAS funded eleven designs for a year of further development. In 1993, NAS chose nine of the design teams to continue in a two-year demonstration phase (1993-1995). Finally in 1995, NAS selected seven of the remaining nine teams to participate in its scale-up phase (1995-2000) , in which the teams would offer both designs and design-based assistance to schools.

Comprehensive School Reform and Design-Based Assistance

Design-based programs are similar to schoolwide programs or comprehensive school reforms. To NAS, "design-based" implies thoughtful planning for and systematic approaches to transforming entire schools, not individual parts of schools or groups of students. In the past, many reforms were "programmatic," focused on a particular set of individuals within a school, a particular subject, or grade level. Adoption of multiple program approaches to address each area of schooling resulted in a fragmented education program and a balkanized school organization. In contrast, design-based, comprehensive school reforms are meant to adapt and integrate best practices, adding some existing programs and terminating others, into a coherent set of activities – a holistic design of effective approaches to teaching and learning for the entire school.[7]

Design-based assistance refers to the role that design teams play in ensuring schools can adopt and implement the designs. The concept as used by NAS and its teams includes providing:

- schools with a choice of designs to partner with;
- highly specified designs that clarify both the end outcomes for the school and also intermediate implementation steps;
- assistance from the design team to the school in the form of professional development, materials, conferences, networks, curriculum and instruction packages, etc.; and
- the payment by the school to the team for these services.

Thus, NAS emphasizes the role of the external agent in enabling whole school transformation.

Scale-Up Phase

In 1995, about 500 schools signed up for partnerships with NAS design teams. In 1997, this figure had grown to about 700 schools. More than 1,000 schools are expected to be partnering with NAS design teams by fall 1998.

School Demographics

Through teacher and principal surveys, RAND tracked the characteristics in 130 of these implementing schools in eight of the original ten NAS districts.[8] We note that the districts served, outside of the Kentucky districts, are in the nation's urban areas. We found:

- About 40 percent of the nation's children qualify for free and reduced lunch programs. In the average NAS school in our sample, 54 percent of the children qualify for these services. If the more affluent schools from the states of Kentucky and Washington are excluded, the school poverty composition increases to 68 percent.
- On average, about 60 percent of the students in NAS schools are minority (non-white) students, compared with 35 to 40 percent nationally. If the Kentucky and Washington schools were removed from the sample, more than 80 percent of the children in NAS schools would be minority-group members.
- In the NAS sample, the schools scored at or below the district average on state- or district-

mandated achievement tests. In addition, several of the districts were among the lowest-performing districts in their respective states.

In short, the NAS schools in the sample are similar demographically to those served by other Title I schools. In fact, 66 percent of the schools in the sample received Title I funding, and 62 percent qualify for schoolwide program status. About 45 percent indicate that they use Title I funds for the implementation of the NAS designs.

General Findings

As one part of the broader evaluation, in 40 schools, we tracked in more detail the degree to which schools implemented the designs, asking them what enabled comprehensive school change and what impeded it.

The most important finding of this case study research was that schools varied considerably in the level of implementation achieved two years into the five-year scale-up effort. About half of the 40 schools were implementing the designs at targeted levels (the goals set by teams, NAS and districts) while the other half were below this level. Strong implementation required effort on everyone's part—schools, design teams, and districts—and a set of favorable circumstances. In particular higher levels of implementation were associated with:

- **A Solid School-Team Relationship:** A voluntary, well planned and informed matching process between schools and teams, stable school leadership, and a lack of pre-existing school crises.
- **Effective Support by the Design Team:** Capacity by the design team (stable and well trained staff) to deliver professional development and other assistance; strong and early interventions in curriculum and instructional areas tied to standards; strong implementation support including training for the entire staff, full allotment of professional development days needed, use of facilitators at the school level, and implementation checks.
- **Specific School and Teacher Characteristics:** Elementary schools or restructured secondary schools.
- **Positive District Political and Regulatory Support:** Stable district leadership; a perceived high priority on the effort; lack of budget crisis or other crisis; a history of trust between the central office and the schools; significant levels of school autonomy especially over curriculum and instruction, budgets, positions, and staffing.

District Role in Supporting Comprehensive School Reform

For the purposes of this paper, we will focus on those factors contributing to implementation that concern the district's role. These fall into each of the above categories and are explored below.

District Role in the School-Design Team Relationship

Districts played a strong role in determining the initial and sustained viability of the relationship between the school and the team. In every district in the sample, schools had complaints about poor planning and lack of time for making decisions, issues brought up in other studies of the adoption of schoolwide programs (Wong and Meyer, 1998). This finding points to the need for more careful planning approaches to selecting designs and timelines that synchronize with other planning cycles for schools.

However, in other areas, districts showed significant variation in their approaches to matching schools and designs, resulting in a negative impact on the implementation of the design.

Several districts forced schools to accept a particular design, which proved self-defeating. These schools were well behind on implementation and complained bitterly about the treatment they had received from the district. However, mandating that schools choose *some* design within a three- to five-year period proved to be beneficial. At least these latter schools entertained school improvement ideas presented by teams without feeling forced into specific matches.

Several districts negatively influenced the matching process in less visible ways. For example, it was largely up to districts to disseminate information about choices and how to make them, the level of resources available for implementation, designs, and timelines for making choices and implementing them. When the district performed this function in a hurried and less than thoughtful fashion, schools became confused and chose designs in a hurried and less than thoughtful manner. Inappropriate choices resulted. Sometimes this was specifically due to the district being unclear about the sources and uses of funds for transformation. For example, in one or two districts schools claimed that they were lured into the initiative by the offer of significant additional funding, extra professional development days, new technology, and higher levels

of school autonomy to implement the design. When the districts did not deliver on these promises, the school-level implementation stalled. School respondents said that they would have made other less expensive choices had they known the real level of financial support available.

In addition, in several instances districts had policies requiring that principals rotate to other schools on a cyclical basis (every three to six years, depending on the district). When a school experienced this routine turnover during early implementation, efforts at implementation lagged.

Finally, some districts simply did not face the unfortunate reality of certain schools – that some schools might be beyond even this type of help. District decision makers refused to face the known underlying causes of problems in specific schools: poor leadership, political in-fighting, extremely low capacity in the school due to systematic resource allocation to other schools, or, in one instance, alleged malfeasance. Rather than directly addressing these problems, the districts promoted NAS designs as a solution for everything. Evidence indicates that the adoption of NAS designs clearly cannot solve some of these issues. In fact, these very problems prevent implementation of the design.

In summary, the district played a crucial role in the matching and selection process. A match thought to be suitable and well informed by both the design team and the school did not necessarily guarantee high levels of implementation. Clearly unsuitable matches or unprepared schools, however, did guarantee very low implementation levels. Thus, from the start the district has a role to play in avoiding failure, if not in ensuring success.

District Role in Encouraging Support by the Design Team

Instances of poor support for schools from specific design teams were clearly the fault of the teams in many instances, and resulted from poor planning, lack of resources, and leadership turnover. During this period, teams attempted to grow capacity to meet the increasing number of schools demanding their assistance, while easing into a fee-for-service mode. Some were more successful than others.

However, the district played one important role in determining design team support to schools. It was the district, not the schools, that negotiated the contract for design team services and determined how much to pay the teams. Some districts recognized that assistance to transform an entire school would cost more than assistance to implement a single program within a school. Other districts attempted to obtain a cheaper package, more in line with what they were used to paying for individual, fragmented programs. Unfortunately, cheaper was indeed what districts and schools received in these instances. If the district would pay for only three professional development days, as opposed to a higher number required by the team, then that is indeed what schools received. If the district refused to buy materials and technology needed to implement the design, then schools had to make do. *Our data indicate a strong positive relationship between the level of implementation and the amount of money a district dedicated to professional development and teacher planning.*

District Message Concerning School and Teacher Characteristics

Our case study evidence indicates that elementary schools showed higher levels of implementation than secondary schools, but that school-level poverty factors, minority composition, and size were not related to implementation (Berends, forthcoming). These findings are supported by new evidence from our survey data from the 130 schools where teachers reported significant levels of implementation, with the exception that the data show little difference in implementation between elementary and secondary schools. Neither do they show a relationship between implementation levels and teachers' gender, racial/ethnic background, educational degree, age or years of experience in the school.[9]

This evidence suggests that schools can implement designs, regardless of student or teacher background characteristics. This is an important message for districts to convey to schools. In addition, given the evidence, a district role in promoting and aiding implementation at the secondary level might be necessary.

District Role in Creating a Supportive Environment

Teachers and school-level respondents pointed to two critical types of district support that affected their implementation efforts: political and leadership support and regulatory and financial support.

Political and Leadership Support

Higher average levels of implementation were found in districts that had a stable district leadership that placed a high priority on the effort, that lacked a major budget crisis or other crisis, and that had a history of trust between the central office and the

schools. School-level respondents directly linked these factors to greater efforts at implementation. When these factors were missing, school respondents reported that their own efforts stalled or were less intense.

For example, in one district the superintendent announced the five-year commitment to the NAS effort at approximately the same time she announced her retirement in two years. Teachers and principals reported this sent them a "mixed message" about what level of effort they should give the initiative. Many asked, "Why should we commit to the superintendent's initiative, when the superintendent will not be around long enough to see it through?" In the first year of implementation, the same district put a redistricting initiative on the agenda that would have closed several of the implementing schools and reassigned students to others. In the second year of implementation, a severe budget crisis hit. Schools revised their budgets accordingly. Promised money for implementation of the designs did not arrive, and the attention of the central office support team for NAS was drawn to more pressing political problems. Again and again, teachers and principals indicated they interpreted these actions as showing the district did not place a high priority on the NAS efforts. Thus, they followed suit. It is no wonder, then, that the schools in this district showed low levels of implementation after two years.

In contrast, several districts in our sample did not have these particular issues during the two years of scale-up. On average, schools in those districts showed higher levels of implementation.

Regulatory and Financial Support

While crucial, central office political support and attention must also be buttressed by significant changes in regulatory and financial practices. Fundamentally, comprehensive school reform is about a school becoming different from all the other schools in its district – transforming itself into an organization dedicated to facing and solving its problems and improving its students' educational opportunities and outcomes. Comprehensive school reform is not confined to the adoption of a new curriculum or a few new instructional strategies.

Instead, it requires the rethinking and adoption at the school level of a whole new curriculum and instructional package that by its very nature must be different than that which the district has mandated or approved for all its schools. In turn, this curriculum and instructional package cannot be developed or implemented without significant changes in resource allocation for instructional positions, materials, technology, professional development, etc. Thus, at a minimum, schools attempting comprehensive school reform to address their particular problems must have increased site-level control over their curriculum and instruction, their budgets, their positions and staffing, and most essentially their mission.

In our sample, districts varied significantly in their understanding and response to these school-level needs for transformation. In those districts that provided for modest budgetary and other types for autonomy, implementation progressed. In those that did not, implementation lagged. While we have focused on the central office so far, union actions or policies can prohibit implementation. Several examples tell the story.

One district, which had provided for extensive school-level control over curriculum and instruction, is now mandating district-wide adoption of a 90-minute per day prescribed math curriculum and a similar language curriculum in a scramble to ensure that state-mandated test scores increase. It is enforcing curricular uniformity by checks in classrooms, with non-compliance reported in teachers' personnel files. Teachers report that implementation of designs has declined simply because they have only about 90 minutes a day to implement project-based interdisciplinary approaches as described by the design, and now these approaches can only be applied to science and social studies areas.

In other instances, district or union control over staffing and position assignment was reported to be a barrier. For example few schools were given the freedom to dismiss teachers who were not supportive of the implementation effort, or to add/terminate positions under the new designs. For example, in one district at the end of two years, school-level teacher/facilitators who had left the classroom to provide the day-to-day coaching needed to implement the design ran up against a union rule that prohibits teachers from remaining "out of the classroom" for more than two years. Teacher/facilitators in these schools sought an exemption through a waiver process. This waiver process relies on a vote by the union members who attend that monthly meeting. On this particular night, the union voted down the exemption, although on another occasion it had voted to support an exemption for a different group of teacher/facilitators. Thus, while the union claimed to be supportive by offering a waiver process, that process itself became non-supportive in an idiosyncratic manner.

Several districts claimed to have increased schools' autonomy over the budget so that schools could now make important resource reallocation decisions needed to implement the designs – e.g., moving positions from pull-out reading programs to technology coordinators, applying funds to more professional development, applying district mandated professional development days to design-related professional development, or creating facilitator or family support positions. But further discussion usually showed that marginal school-level autonomy existed only over Title I funds and supplies. In some cases, schools had autonomy over how to spend within particular, highly specified categories of funding, or stovepipes, but not between different stovepipes. These stovepipes were very narrow and fragmenting. While Title I funds appeared to be more flexible, even here schools' power was circumscribed by a district's decision to mandate positions paid for by the school's Title I allocation, or a district's reluctance to move from strict adherence to federal Title I regulations.

In most cases, these budgetary rules and regulations could be circumvented, but only with time and effort. Schools were required to apply for waivers or to "ask for permission." Each of these requests involved significant time and energy from principals and teachers when they needed all their time and energy to learn new standards-based curriculum and instruction.

Finally, in many instances districts have state-mandated standardized tests that are increasingly used to evaluate principal and teacher performance. In these cases, implementing schools are drawn to skill-and-drill techniques and strict content coverage, to ensure the test scores upon which they will be judged. New ideas about teaching and learning are discouraged, even though those skill-and-drill techniques have not produced the desired results in those very same districts. Teachers indicate this testing accountability regime leads to lower levels of implementation of designs as students are drilled for several weeks prior to the high-stakes tests.

Regulatory barriers, then, can function like large rocks in a stream of new ideas and reforms. The reforms must flow around them or slowly erode them overtime. Meanwhile the course of the stream bed remains largely unaffected by reform efforts.

Summary of Findings on the District Role

In short, the district-level politics, policies, and practices could promote or derail the effort to transform schools using comprehensive school reform models. Schools looked to district leadership, climate, and regulations to understand if it was worth their time and effort to invest in transforming. In some districts, schools judged that it was not, and thus did not invest their efforts in reform. In others, schools received the support they needed to begin a legitimate effort at implementation.

POLICY IMPLICATIONS

These findings have several implications for the improvement of Title I and the Comprehensive School Reform Program. The goals and the clientele are the same as are the general approaches being encouraged at the federal level. We cannot state that suggestions offered for improvement below will result in improved student and school performance, but they might result in stronger implementation of schoolwide approaches to reform.

It is clear that if the federal government wants schoolwide models to be effective, or even implemented, it will have to address the role of the district. The federal government will have to promote more than school-level changes with federal limited discretionary resources. It will also have to promote a supportive district role and environment.

Importantly the barriers to innovations and transformation at the district may be increasing. Districts are facing new and building pressures to ensure that their lowest performing schools substantially increase their performance, and these schools are frequently high-poverty, high-minority schools receiving Title I funds. If districts react to this pressure with routinized behaviors, they will seek to increase central control, while applying it in the usual fragmentary fashion. Under this scenario, we would expect to see more districts moving to mandated reading and math programs with specified professional development routines, increased teacher and principal accountability based on inappropriate test regimes, and further reductions in school-level autonomy. Such policies significantly conflict with the adoption of schoolwide programs. This top-down approach, while possibly producing short-term gains, cannot provide the long-term capacity and capability building needed at the school-level.

The federal role then must become one of discouraging this type of approach and arguing for one more conducive to building capacity and capability at the school level to design and implement school-specific, schoolwide solutions to the problems the school faces. Going beyond our data, we believe that this federal role should not take the form of rules and regulations tied to the receipt of funds. This will only further encourage the building of regulatory capacity at the state and district level, while denying

teaching and learning capacity at the school level.

Rather, the federal government should promote, encourage, and support the free flow of information and funding within the system to develop more informed consumers at the district and school levels by disseminating information about:

- How to assess the problems specific to the school and how to identify assets and liabilities that can be used or addressed through comprehensive reforms;
- How to make good choices about adopting a design or program, and what programs or designs are available to address specific problem areas;
- Realistic planning timelines for developing and adopting schoolwide programs and realistic expectations for the magnitude and timing of results;
- The most effective communication and training processes to provide the assistance needed to further implementation and adaptation of designs;
- Costs of design adoption and the investment levels needed in professional development; and
- Regulatory and other barriers to implementation and the need for district supports, especially identification of needed autonomy at the school level over staffing and funding allocations.

Before the federal government can disseminate the above type of information, that information must exist. Some of it is now being developed. Other pieces can only be developed with further federal support. The following issues can only be clarified with more research, evaluation, and discussion among the participating parties:

- What is a comprehensive design? What does it mean to be research-based?
- What outcomes are associated with adoption? What is the likely timing of those outcomes?
- What supports must design teams and districts offer to ensure implementation? And, what quality standards should exist for design team assistance?
- What school-level and teacher-level accountability mechanisms can simultaneously encourage both innovation and meeting high performance standards? In particular, how can we better use testing as an incentive for improvement, innovation and capacity-building, and not solely as a means for punishment?

In addition, the federal government can reduce the tendency of districts to produce rules and regulations prohibiting innovation by reducing its own rules and regulations. Federal Title I regulations and prohibitions on the use of funding should be evaluated as to their likely impact. They should be removed if they are determined to be a significant barrier to implementation of strong curriculum and instructional programs, or a significant barrier to the creation of a high-quality workforce with positions designed to promote student achievement.

Finally, the federal government must pay close attention to its current stance of promoting the implementation of standards-based reforms with associated high-stakes testing, and its promotion of comprehensive school reforms intended to enable schools to create curriculum and instructional packages that go beyond skill and drill learning routines. The implementation of high-stakes testing regimes—the apparent outcome of many standards based reforms—might preclude the adoption of rich and varied curricula that challenge students and motivate them to engage in more in-depth learning experiences. Our interviews with teachers and principals clearly indicate that high-stakes tests are a two-edged sword. On the one hand, high-stakes tests motivate schools to increase performance and often to seek out new curriculum and instructional strategies associated with comprehensive school reforms. On the other hand, those very same tests may also deter them from adopting richer, more in-depth curriculum.

The reauthorization of Title I provides a variety of ways for the federal government to advance meaningful changes in the educational opportunities available to the nation's students. The legitimate implementation of comprehensive, whole-school designs with the use of Title I funds is one such way. However, we have pointed to a variety of factors that districts, despite being an avenue for support, need to address if implementation of whole-school designs is going to occur. The success of such implementation in helping schools educate students to meet challenging content and performance standards remains an open question. Only further research, itself taking a systematic and systemic perspective, will provide an answer.

NOTES

[1] See Bodilly et al., 1995; Bodilly, 1996; Mitchell, 1996; Stringfield, Ross and Smith, 1996.

[2] See Bodilly, 1998; Glennan 1998; Berends and Bodilly, forthcoming; Berends, forthcoming; and Keltner, forthcoming.

[3] The longitudinal study of NAS' scale-up addresses four major questions: What is the level of implementation in NAS schools? What impedes or facilitates that implementation? What do instructional strategies look like in NAS classrooms (descriptive analysis)? And does the adoption of NAS designs result in any changes to student and school outcomes? The study uses a variety of data collection methods across multiple schools in multiple districts: open- and closed-ended interviews, focus groups, case studies, teacher and principal surveys, document analysis, district-provided data, and classroom observations, review of student work, and classroom artifacts. The descriptive analysis of classroom practice focuses on fourth grade students in NAS classrooms in San Antonio and uses some of the above methods as well as classroom observations, collection of student work, and the administration of the Stanford Achievement Open-ended Reading Test (Version 9).

[4] Findings presented here are based on case studies of 40 schools in seven districts from 1995-1997, surveys of teachers and principals in 130 schools in eight districts from 1996-1997, archival data from districts on school achievement and demographics, and other related news reports and documents. For further details of this research, see Bodilly (1998) and Berends (forthcoming).

[5] "School-wide" programs, available for funding since 1988, allow schools to use Title I money with other dollars to improve school performance as opposed to targeting Title I money solely to qualified students. The 1994 Improving America's Schools Act encourages more wide-range adoption of schoolwide programs (see American Association of School Administrators, 1995; http://www.ed.gov/legislation/ESEA).

Currently, schools can use their Title I funding to improve the entire instructional program throughout the school if at least 50 percent of the students within the school are from poor families. (For a discussion of the 1994 Improving America's Schools Act see U.S. Department of Education, 1993; and Borman et al., 1996).

[6] The "Obey-Porter" bill, federal appropriations legislation passed in November 1997, committed $145 million to be used to help schools develop comprehensive school reform based on reliable research and effective practices. The majority (83 percent) of the funds are committed to Title I schools. Approximately 2,5000 schools will receive $50,000 per year for three years under this program (see http://www.ed.gov/offices/OESE/compreform).

[7] We use the words "are meant to" purposefully. As we can only show 50 percent of the schools studied at the expected levels of implementation and as these schools were only two years into implementation when last visited, we cannot claim that effective practice will be the end result.

[8] Cincinnati, Dade, Kentucky, Memphis, Philadelphia, Pittsburgh, San Antonio, and Washington State. While we gathered data in more of these schools, 130 were actually implementing.

[9] However, this survey evidence does show that some teachers report more positive support of the design in their school. Teachers who are female, from a minority racial-ethnic group, have a master's degree, and have relatively less experience in the school tend to be supportive of the design, independent of the types of schools in which they teach.

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TITLE I AND STATE EDUCATION POLICY: HIGH STANDARDS FOR ALL STUDENTS?

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In 1994, Congress passed the Improving America's Schools Act. This legislation created major changes in Title I of the Elementary and Secondary Education Act, an $8 billion program that provides additional funding to schools with large concentrations of poor children. Congress redesigned the Title I program to encourage states to set challenging content and performance standards that apply to all students, including special-needs populations. It also sought to ensure that these special-needs students—such as low-achieving students, Limited English Proficient students, and students with disabilities—are included in states' general education reform efforts.

Under the law, states must establish content and performance standards in core subject areas, minimally in reading and mathematics. They must use these standards to provide guidance for teaching and learning and to serve as the basis of their overall efforts to improve schools. The law requires that states monitor the progress of all students, including Title I students, using assessments that are aligned with state standards. It also holds schools and school districts accountable for demonstrating continuous improvement in student performance each year through measures of "adequate yearly progress." Thus for Title I to succeed in improving the educational outcomes of special-needs students, states must establish high student achievement standards, develop rigorous assessments aligned to these standards, and design measures of continuous progress that provide incentives to raise the achievement of all students.

This paper reports on states' implementation of federal Title I policy with data collected from intensive case studies of 12 states[1] and 24 districts[2] and from other documents. It also examines the variation in states' Title I policies and how states and localities use these policies to bring about improved instruction for low-achieving students and in low-achieving schools. The findings reported here raise concerns about the extent to which a federal policy design that relies on the use of state and local standards-based reform policies can ensure that *all* students have the opportunity to achieve the same high standards.

IMPLICATIONS OF TITLE I FOR EQUITY

Title I, unlike its predecessors (Chapter 1 and an earlier version of Title I), focuses on improving the performance of *schools* serving low income students rather than providing remediation to individual students. Thus, Title I's shift mirrors states' own policy shifts toward schools as primary accountability units (Elmore, Abelmann & Fuhrman, 1996). Most state policies, however, are not currently designed in a way that holds schools and school districts directly accountable for the continuous progress of *all students*, particularly those with special needs.

Specifically, many state policies:

- Pay inadequate attention to subgroups of students (e.g., racial/ethnic groups, low-income students) or low-performing students;
- Establish low performance goals that may leave many students behind; and/or
- Use assessment systems for accountability purposes that often provide insufficient or inadequate data to support continuous improvement of individual students.

Subgroup Accountability

States' Title I accountability policies rarely address equity *within* schools. For example, data from state assessments, such as the Kentucky Instructional Results Information System (KIRIS) and the Maryland State Performance Assessment Program (MSPAP), and national assessments, such as the National Assessment of Educational Progress (NAEP), show that performance gaps between student groups persist. Ethnic minority students and students from lower socioeconomic groups—the students generally targeted by Title I—continue to perform lower than their peers. Accountability

measures that focus on the performance of the student body as a group mask performance gaps among subgroups of students. Thus basing rewards and sanctions on the performance of the student body as a whole does not provide a direct incentive for schools to reduce achievement gaps among subgroups of students, such as differences in performance across race, ethnicity or socioeconomic status.

One state's accountability system (which it also uses for Title I accountability) does address equity within schools. Texas' accountability system *requires a minimum level of performance* by subgroups of students. A minimum number of students (40 percent in 1998, increasing by 5 percentage points annually to reach 50 percent in 2000) in each subgroup (grade, race/ethnicity, low-income as measured by free/reduced price lunch status) must pass the Texas Assessment of Academic Skills (TAAS) for a school to be rated as "satisfactory." If *any* subgroup of students within the school does not meet the annual goal, the school is subject to sanctions under the state accountability systems. Though people debate the rigor of Texas's assessment, the performance gap on TAAS between black and white students has been reduced by 30 percent since 1994.[3] Between economically-disadvantaged students and all students in grades 3-8, the performance gap has also closed by 30 percent since 1994. At the same time, TAAS passing rates of all groups and subgroups of students have risen in the last four years.

Although Title I does not hold schools accountable for subgroup performance, Title I does require states to report students' assessment results by subgroup. The policy assumes that schools will focus planning and instruction on closing the achievement gaps once the gaps are measured and identified. States, however, vary in whether and to what extent data on subgroup performance is available at the district and school levels. States are typically placing the responsibility for disaggregation on local districts. Data disaggregation presents challenges for schools and districts with small student populations because of issues of anonymity.

Federal policymakers who want to hold states, districts and schools accountable for subgroup performance face three issues:

- Many Title I schools have high concentrations of low-income students. Particularly in urban areas, these high poverty, Title I schools are "majority-minority," (the majority of students are minority-group members) so equity concerns are not specific to a subgroup of students within a school.
- In areas with few low-income and/or minority students, the number of students tested may be too small for relevant subgroup scores to be reported.
- Title I policies addressing schoolwide performance or subgroup performance are not always appropriate for Title I Targeted Assistance schools that serve and assess small numbers of Title I students.

Low State Performance Goals

In addition to overlooking the performance of student *subgroups*, state and Title I policies may leave the *lowest-performing* students behind under current measures of adequate yearly progress (AYP) and performance targets. Most states measure schools' adequate yearly progress by the number of students who move up from lower performance levels to proficient or advanced levels on state tests, and states' goals for student achievement may exclude large numbers of low achieving students. For example, a Maryland school can meet the state's K-8 goals (70 percent of students scoring "satisfactory" Maryland State Performance Assessment Program) even if 30 percent of students in the school have less than satisfactory scores. In Florida at grade 3, schools can satisfy AYP even if two-thirds of students score below the 50th percentile on the state assessment, or below standard on the state writing test. Texas's Year 2000 goal for its education reform is to have 50 percent of students pass the state assessment. Many states' criteria for progress could be satisfied by focusing attention on those close to meeting satisfactory standards and ignoring students at the bottom of the performance distribution.

A few states have policies that require schools to show improvement across the performance spectrum: students at all levels, from low to high-achieving, must show improvement. These state policies can provide explicit incentives to address teaching and learning needs of students furthest from meeting the standard. In 1998, Kentucky's policy somewhat addressed performance of the lowest-performing students: in addition to overall school performance requirements, schools must move 10 percent of students from the lowest performance level (novice) to the next level (apprentice) to be recognized as "exemplary." Similarly, Missouri requires at least a 5 percent decrease in the percentage of students appearing in the bottom performance level. Missouri schools with at least 40 percent of students in the bottom level could instead show a 20 percent decrease in the percentage of students at the bottom to demonstrate adequate yearly progress (AYP). In Nebraska, AYP is moving 10 percent of students to

the next highest proficiency level in at least two of the three non-advanced performance levels on a composite index of a district-selected norm-referenced test (required for state accreditation) and criterion-referenced test.

Limitations of State Assessments

There is an inherent tension within states' assessment systems. Because of technical concerns and practical issues, assessment systems designed for the purpose of holding schools accountable are not compatible with assessment systems designed for the purpose of diagnosing student performance and measuring continuous improvement for students. Under state assessment systems, only certain grade levels are assessed, not all students in a grade are assessed, and assessment results are not always timely and do not provide longitudinal information in individual students' progress. To address these gaps in information and incentives, many school districts are adopting local assessments and accountability policies.

In addition to implementing state accountability requirements, virtually all the districts in our study are tracking student academic progress during the course of the school year and also over several years with additional district-selected or developed assessments. Districts often administer the tests in grades not tested by the state, in order to provide more data about student performance across a broader spectrum of grades throughout the school. District tests are also used to track individual student or grade-level progress from year to year and/or to evaluate student or school progress toward district goals. For example, two districts have developed end-of-unit or "interim" assessments in their elementary mathematics curriculum so teachers can document their students' mastery of the district's and/or state's mathematics objectives throughout the school year. Another district requires schools to test students three times a year on an assessment of their choice to assure that all students are performing on grade level.

States' Implementation of Title I's Standards-Based Reform Components

Although many states' Title I accountability system lack strong incentives for addressing performance gaps among groups of students, states and localities are aligning Title I with general education reforms. Because of the alignment, however, the implementation of federal policy reflects variations in state policies. Across different states, their standards, assessments and accountability systems vary significantly in their coverage, rigor, power, and stability. States' standards emphasize different academic subjects and different depth of knowledge in these subjects; who is tested and at what grade level, and who is included in accountability systems also varies (coverage). There is also considerable variation across states in how challenging their standards and assessments are, how much progress states expect schools to demonstrate each year, and the criteria they use to measure progress (rigor). States differ in whether the power to implement reforms is more centralized or decentralized; some states provide more guidance and exert more control, while other states leave many decisions to districts and schools (power). Additionally, some states have focused their attention consistently on one set of education reforms while others change their focus often (stability).

This variation is rooted in states' political culture (a strong state role in education vs. a strong tradition of local control) and ideological disputes over what constitutes good mathematics and English/language arts learning and instruction. This variation has implications for the expectations established for schools and school districts, and for the incentives to improve instruction for poor and low-achieving students.

Coverage

The content of standards, including the knowledge framework and level of skills and specificity, varies from state to state, and often by subject matter within a state (c.f., AFT, 1997; Massell, Kirst & Hoppe, 1997; McDonnell, McLaughlin, & Morison, 1997). While state standards generally reflect national standards, some states have adopted only broad learner outcomes which emphasize general knowledge, skills, and attitudes students should have by the time they graduate from high school. Other states are developing student content standards or curriculum frameworks in specific disciplines. State standards also vary on whether they are primarily academic or comprehensive—whether they include nonacademic areas such as student behavior or work and life skills in addition to the traditional academic disciplines—and how many grade levels they cover (e.g., standards in every grade versus at periodic "benchmark" intervals every few years).

State assessments differ in who is assessed (individual students vs. "matrix sampling"[4]), at which grade levels they are assessed, with what kinds of tests and in which subject areas. Unlike previous Title I assessments which measured *individual* student performance over time, the new Title I assessment requirements focus on the performance of

schools and districts. Thus, Title I only requires assessment of a sample of students in one grade in each of three "benchmark" grade intervals–grades 3-5 (elementary), 6-9 (middle) and 10-12 (high school).

Some states are using "matrix sampling", and Title I requires that Title I assessments provide individual results. A major criticism of the now-defunct California Learning Assessment System (CLAS) test was its lack of individual results; subsequent legislation made individual test results a mandatory component of any state test in California. Similarly, in Colorado, political pressures led to the redesign of the state's standards-based assessment. In 1997, on the eve of the administration of the new state test, Colorado's political leaders switched their statewide testing design from a matrix sample with district-level results to assessing every student in the tested grade level and providing individualized results. Colorado legislators argued that if they were going to spend money on a state assessment, they wanted to provide individual-level test results, particularly for parents. In addition, the desire for individual student results has provided an impetus for some states, like Maryland, to support the development of a national test.

Regardless of whether every student takes a state assessment, state tests do not cover all academic content, and Title I only requires assessment and AYP in reading and mathematics. Most states, based on their statewide assessment and accountability designs, test both mathematics and reading and include those results in their AYP measures. Kentucky and Maryland test students in other subjects besides reading and math, such as science and social studies, when measuring progress for Title I. At the other end of the spectrum, Pennsylvania is seeking a waiver to assess students in only the subject(s) for which they receive Title I services.

While many of the study states include only a few grade levels in their formal accountability systems, some require, or give local districts the option of, the use of commercial assessments in alternate grades. For example, Kentucky and Maryland administer the Comprehensive Test of Basic Skills (CTBS), and Florida and Minnesota require districts to select commercial tests in grade levels that are not tested by the states. Finally, states differ in the mix of formats they include in state assessments—multiple choice questions; short- or long-answer questions; performance items that ask students to perform a task or experiment; and portfolio assessments, a collection of a student's classroom work that shows their progress over time.

Rigor

States are measuring some students' performance against standards in some subjects. To what extent are the state content and performance standards being used for Title I rigorous and meet the academic expectations of other high-achieving countries? The U.S. Department of Education does not approve states' standards (though it does approve the standards-development process). Instead, the Department of Education relies on local public pressure and political processes to ensure high-quality standards.

External evaluators—including advocacy groups and media organizations—have judged the quality of states' standards. However, at face value, external evaluators are not reliable judges of rigor since they do not use the same measures to assess the quality of state standards and do not rate the quality of standards consistently. This is illustrated by the different "score cards" contained in the American Federation of Teachers' *Making Standards Matter* (1997), Education Week's *Quality Counts* (1998), and the Fordham Foundation's *State of State Standards* (Finn, Petrilli, & Vanourek, 1998) reports.

Without auditing states' assessment systems and their related performance standards, it is difficult to discern the rigor of state assessments. One can look, however, at whether state assessment systems are aligned with state standards. Some states, like Kentucky, have high-quality assessments aligned to standards in all the appropriate grade intervals. Maryland has elementary and middle school level tests that are aligned to state standards, but is in the process of changing its high school assessment—currently a functional test. Florida and Texas, on the other hand, plan to upgrade their entire state assessment systems. They will move from basic skills tests to tests aligned to new, more challenging standards. Minnesota is introducing new assessments throughout the grade intervals.

Title I uses state assessments to measure progress and as the centerpiece of its accountability system to hold schools and districts accountable for student performance. While Title I schools and districts are required to maintain AYP toward state standards, states have flexibility in how they measure and define this progress. For example, many states have established at least three levels of proficiency on their assessments—partially proficient, proficient, and advanced—as required by federal law. However, states differ in their goals for satisfactory school performance and the time frame in which they expect

schools to meet the goals. Kentucky envisions 100 percent of students reaching a "satisfactory" level of performance by 2012, 20 years since the initial implementation of the Kentucky Education Reform Act (KERA). Maryland is striving for 70 percent of students being "proficient" by 2000, about seven years from the implementation of the current reform. Texas envisions 50 percent of students reaching "satisfactory" levels by 2000.

In addition, states have different definitions of what constitutes adequate progress, and different ways of measuring whether schools and districts have met the criteria each year. States may measure annual progress as a fixed, set amount for all schools, or as a relative amount based on each school's past performance and distance from state goals. Of the 12 study states, two rely exclusively on absolute, fixed measures of performance; eight rely on relative measures of performance; and two rely on a combination of fixed and relative measures.

Florida and Texas use absolute measures; these states have established performance thresholds that all schools must pass to demonstrate satisfactory progress. Florida requires that schools meet two of three performance criteria: proportions of students meeting satisfactory criteria or scoring at a particular percentile on three statewide tests. Texas requires schools and student subgroups within schools to meet performance targets—minimum levels of performance on tests, attendance and dropout rates—which escalate 5 percentage points annually to the year 2000. In 1998, for a Texas school to be rated "acceptable," it had to have at least 40 percent of students in each subgroup pass the state assessment in reading, writing and mathematics, a dropout rate of 6 percent or less, and a student attendance rate of at least 94 percent. The incentive to improve provided by absolute measures depends on how high the target is set, and how rigorous are the assessments used to measure whether schools and districts have met this target.

While *absolute measures* focus on achieving states' school performance goals, the use of *relative criteria* emphasizes continuous yearly improvement. Ten of our study states measure progress by gains. However, measuring gains has many dimensions. Colorado relies on overall increases in performance as measured by increasing the number of students scoring at least proficient on assessments; unlike fixed criteria, the focus is on *increasing the number* of students who are becoming proficient annually, rather than on having a set number reach proficiency. Nebraska and Pennsylvania measure progress by the number of students moving to higher performance categories. This includes the percentage of students moving from below the standard to meeting the standard, or the percentage of students moving from meeting the standard to exceeding the standard. Kentucky and Maryland measure progress toward absolute state goals. Maryland, for example, requires districts to show "statistically significant" progress toward its year 2000 goals. Kentucky expects schools to achieve at least one-tenth of the difference between their baseline performance and the state's year 2012 goals every two years. Unlike fixed measures, relative measures of AYP generally demand improvement of both low- and high-performing schools. In eight of the study states using continuous progress criteria, all schools—including those that are performing above average—are required to show annual improvement.

Power of Policies

One intent of the Title I legislation is to raise expectations for disadvantaged students and to improve the quality of education that is provided to them. The success of Title I in achieving these goals depends not only on the content and rigor of state standards, assessment, and accountability policies, but the power of these policies over local school districts. As described by Schwille et. al. (1986), the power of a policy rests with rewards for compliance and sanctions for non-compliance. We found that the power of state standards and accountability systems also varied across our study states.

Some states' standards and accountability systems have little "power." In 5 of our 12 study states—California, Colorado, Michigan, Missouri and Nebraska—the state standards are only "model" standards, and districts are allowed adopt their own standards. For example, in Colorado, local standards are expected to "meet or exceed" state standards, but the Colorado Department of Education has not established a review process to determine whether local standards are aligned with the state's. In Michigan, districts' standards are not required to align with state standards, though districts must explain differences between the two standards. Such latitude for local standards may reduce the authority of state standards and exacerbate the fragmentation of educational policies and programs that the 1994 Title I requirements attempt to alleviate.

Only a few states hold schools and/or school districts accountable for the attainment of state-established performance goals; as a result, this further reduces the power of state (and state Title I) policies. Some states with strong traditions of local control have developed accountability systems that emphasize local standards and local reporting (e.g., Nebraska). Other local control states also allow districts to establish criteria for school performance,

but use district strategic plans or district and school improvement plans to hold districts accountable for student performance. Pennsylvania, for example, requires its districts to develop six-year strategic plans that describe how the locality will help students achieve the state's learning objectives. These plans, which are reviewed by the state, must include specific criteria for measuring student achievement of both locally-determined and state-developed outcomes. Colorado has piloted six-year Enterprise Accreditation Contracts (EAC) that describe how districts will oversee school accreditation and improve student academic performance as measured against district and state standards, including procedures for assisting low-performing schools. These weak state accountability policies provide fewer incentives and less state guidance for improving student achievement, school performance, and district performance.

Finally, states attach different consequences to their general accountability systems. These consequences range from the public reporting of student, school, and school district performance that are intended to generate parental and public pressure for reform ("low stakes" accountability) to state intervention in school and district governance ("high stakes" for school systems) and/or withholding high school diplomas ("high stakes" for students). Nearly all states report annually on their schools' conditions: 43 of them publish reports with district-level data and 35 states include statistics at the school level (CCSSO, 1997). Many states require low-performing schools to develop corrective action plans for low performance and provide technical assistance with this planning process. In some states, schools and/or districts that still fail to improve student performance are subject to additional sanctions: students are allowed to transfer to other schools, staff are reassigned or dismissed, and the state may take over schools or school districts, withdraw state accreditation, or close or merge schools or districts. High-stakes state accountability systems have more power, while low-stakes accountability systems depend more upon local districts to define and carry out reform.

Stability

Stability of assessment and accountability systems is important if we expect teachers, schools, and districts to respond to the assessment and accountability systems' incentives. The alignment of Title I policies with state standards, assessments and accountability systems has exposed Title I to changes that: (1) are a necessary consequence of the evolution of reform (e.g., the review and revision of state standards, development of new assessments aligned to these standards); and/or (2) result from political debates and controversies surrounding standards-based reform policies. For example, in 1997, the American Federation of Teachers reported that 39 of 49 states had developed new or revised standards since the previous year (AFT, 1997). And, as discussed above, states have already changed or plan to change their assessment programs to align with these new standards. Frequent changes in these requirements contribute to the notion that "this (policy) too shall pass," delegitimizing the policies as a source of instructional guidance, and reducing the incentive for local districts to respond with curricular and instructional changes.

More problematic for Title I (and schools and school districts) are the politically-driven changes in state policies. In the 12 states examined for this study, controversies have emerged around three broad issues: (1) the content of state standards; (2) the content and/or format of the state assessment; and (3) consequences of test performance for students and schools.

Three states (including two that were standards-based reform pioneers, Texas and California) recently revised their mathematics and English/language arts standards. In all three cases, the debates were acrimonious, reflecting conflict between those who support a basic-skills emphasis and/or traditional instructional approaches and those who support more hands-on, problem solving-oriented teaching.

Decisions about testing design and administration are also political choices, subject to debate. Public pressure and legislation can affect testing design at any point in the process. The use of more "real life," open-ended items created controversy in California because some perceived the content of the writing prompts of the now-defunct CLAS test—which asked about students' feelings and attitudes—as violating students' privacy. In others states, the use of essays and other non-multiple choice items have been criticized as "subjective." This seriously compromises the stability of the assessments and the legitimacy of the accountability systems based on assessment results. In an attempt to increase public and legislative confidence in the content of assessments, states are increasing public access to test content. For example, Colorado, Kentucky, and Texas publicly release portions of test items for public inspection and teacher professional development. In Colorado, after the test is administrated, newspapers publish test items and the state distributes a booklet of test items to teachers. Other states, such as California and Maryland, have established review panels to oversee the test content.

Testing time and burden are also contentious issues since time spent testing students is often viewed by educators, legislators, and parents as detracting from instructional time. The length of state assessments was a key factor in the Kentucky and Michigan legislatures' decisions to change their assessment designs. In 1998, the Michigan legislature limited testing time for its high school tests. As a result, the state department of education shorted the length of the tests from up to 11 hours to no more than eight hours annually. In Colorado, test specifications set a time limit of six-45 minute class periods (for a total of four hours) per student. In 1996-1997, Kentucky restructured the Kentucky Instructional Results Information System (KIRIS) to respond to concerns about burden at the tested grades. Kentucky divided the subject-area assessments, which had been administered at one grade per grade interval, across two grades per grade interval. Test burden will continue to be a topic on the political agenda as districts supplement state assessments with their own tests, and as parents and policymakers call for assessments that yield reliable individual scores.

State assessments attract increased public and legislative scrutiny and criticism when high stakes are attached to test results. Although most state accountability provisions focus on school accountability, five of the 12 study states (18 nationally) require students to pass exit exams to receive high school diplomas. A few states, such as Colorado, are also tying grade promotion to success on elementary or middle school assessments. Concern over the consequences of more difficult tests for students slowed the development of new high school tests aligned with higher standards in Maryland. Diploma endorsements were delayed and changed in Michigan in response to parental protests.

Local Policies that Promote Continuous Improvement

Some districts in our sample have developed strategies to promote continuous learning and improvement among students and schools. These include establishing clear expectations for student learning, holding schools accountable for student performance, focusing additional assistance on low-achieving schools, and building the capacity for instructional reform. These strategies are focused on all schools in the districts. However, as many districts in our sample have large percentages of high-poverty students (and therefore most, if not all, schools are eligible for Title I), there are few distinctions between general education and Title I policies.

Clear Expectations for Student Learning

Across the sample in our study, districts are setting clear expectations for student achievement and requiring schools to use data in school-improvement planning to focus teaching and learning on state and/or district goals. In most cases, district standards mirror state standards. A few districts that have been leaders in standards-based reform, however, incorporated challenging standards in their curriculum before—rather than in response to—the enactment of state standards.

Establishing clear goals is necessary but not sufficient to improve teaching and learning. Districts must develop mechanisms for focusing the work of schools on the achievement of these goals. The districts in our study often require schools to develop improvement plans that identify school-level needs and strategies for achieving district goals, and to use student performance data (e.g., assessment results, attendance) to inform their planning. While making sense of assessment data is a challenge for many schools, assessment data can help school stakeholders focus on key academic areas and identify teacher professional-development needs.

In several of our districts, for example, schools analyze results from state and local assessments and examine other non-academic indicators (such as student attendance and behavior). After setting concrete goals in academic areas (e.g., increase the "proficient" or "advanced" scores on the state assessment by 10 percent, reach "exemplary status" by the year 2000) and in student health and welfare and parent/community communication, school staff identify specific activities (including professional development) for meeting school goals, and determine resources to implement their plans (e.g., Title I, school professional development and other discretionary funds).

Strong Accountability

Like states, districts are also holding schools accountable for meeting district and/or state standards. Some districts in our study have created an "accountability-flexibility" tradeoff; that is, they give schools wide latitude in decisionmaking about curriculum, instruction, and resources, in exchange for holding the schools accountable for district and/or school-established improvement goals.

The expectations and consequences of district accountability systems vary. Districts' accountability systems often reflect differences in the design of their state accountability systems. In Maryland and Kentucky, where the state has established challenging content standards and performance goals, districts

hold their schools accountable for meeting state standards. None of the districts we visited in these states had enacted any sanctions beyond the state's. However, one district supplemented the state's reward program. In Texas, many schools already meet the less rigorous state standards. Thus, some districts are setting higher goals, such as having all their schools be in the "recognized" or "exemplary" categories (which require more students to pass the state assessment and higher attendance and lower dropout rates) or having all students graduate from high school prepared to enter a four-year college. One of the Texas districts in our study holds principals accountable for meeting these enhanced district standards; principals in schools that achieve the "recognized" rating are given a multi-year contract, while those who do not meet this goal in three years may be reassigned to another school.

Assistance to Low-Performing Schools

The districts in our study are targeting their attention and resources on their lowest-performing schools, providing additional technical assistance and/or reducing site autonomy. The schools are usually identified using state accountability measures, but are sometimes identified using district performance goals (which in some cases exceed state goals). Some of these districts have classified their schools into tiers that provide differential levels of autonomy for schools based on their performance. In general, the less well schools perform, the less autonomy they have. In the lowest-achieving schools, the districts are more prescriptive of curriculum and closely monitor and/or negotiate governance decisions with the school sites.

In one district, the lowest-performing schools report every nine weeks to the district on the progress they have made on meeting the goals in their school improvement plans. They also receive additional resources and technical assistance. The superintendent can opt to intervene in these "Priority I" schools that do not make progress, and has reconstituted one school already. In another district, the district's chief academic officer will make all management decisions in the lowest performing schools, and will review all non-day-to-day decisions of schools that are not performing satisfactorily. In a third district, the identified low-performing schools will go through a self-assessment and review by a team of outsiders. These reviews can lead to an upgrading of the schools' rankings or to more active district intervention. A fourth district has proposed a combination of support (such as support teams from high-performing schools, assignment of a "school coach," and/or additional professional development) and intervention (including realignment of programs to focus curriculum on areas of student need and/or reallocation of resources) for schools not making adequate yearly progress toward district goals or where too few students meet district standards.

Building Capacity

The districts in our study have used a variety of strategies and policies for building school and classroom capacity. Some districts have developed curriculum frameworks and guides that are aligned with state standards; others have devolved curricular responsibility to all but the lowest-performing schools. For example, some districts have adopted widely-used curriculum programs district-wide (e.g., University of Chicago School Math Program (UCSMP), Different Ways of Knowing (DWOK), and/or Reading Recovery), while others encourage schools to select their own whole-school reform designs, including those of the New American Schools (NAS) program. Several districts emphasize school-based management (with strong accountability for results) as their major reform strategy—some by choice, others by law (e.g., in Kentucky).

In spite of this variety of capacity-building approaches, three themes appear to be emerging across the study districts. The first is an emphasis on curriculum and instruction aligned with state and/or district standards. Districts that have developed their own curriculum have mapped backwards from state learning objectives: they start with the end goal of what students should know and be able to do, and then draft curriculum to ensure that students will be able to meet these goals. Those that have adopted externally-developed curriculum are trying to align curricula with state and/or national standards. Second, many districts are emphasizing the use of research-based strategies, whether a commercial curriculum that is widely used across the country (such as the Chicago Math program or Different Ways of Knowing), or whole-school reform models (such as New American Schools). Third, districts are increasingly turning to school-based professional development offerings. Schools that have adopted national models are focusing their professional development on the implementation of these models, and districts are providing additional resources, such as instructional facilitators, to support implementation. Districts that have developed or adopted district-wide curriculum are assigning instructional guides or coaches to facilitate the implementation of these curricula, or more generally, reform-oriented instructional practices. Some districts are assigning coaches to provide assistance in instruction at the school site. Many districts are also providing district and/or school representatives

with additional training, often from external sources, to develop on-site experts in particular curricular or instructional techniques and/or in strategic planning.

Conclusions

Evidence from 12 states and 24 districts suggests that Title I is facilitating the alignment of federal programs with state standards-based reforms. Though localities are responding with significant variation, states and districts are generally moving in the direction of systemic reform, consistent with the intent of Title I. Special-needs students are being brought into the general education curriculum, and schools and school districts have more latitude than before in how they serve these populations. By aligning Title I with general education standards-based reform policies, however, incentives to provide a quality education to poor, low-achieving children are now embedded in state performance and accountability systems. The rigor and coverage of student standards varies across the states. In many states, accountability systems (intentionally or unintentionally) do not make the achievement of the Title I target population—poor and low-achieving students—a high priority. Criteria used to determine progress and satisfactory performance mostly focus on aggregate school performance. While districts must report on the performance of groups of students, they are not necessarily held accountable for ensuring that these groups, or individual students, meet the same high standards. The consequence of these policies can be to limit the access of Title I eligible students to high quality instruction, challenging content and improved educational outcomes.

The federal government made a strategic decision not to review the substance of state content or performance standards. The question now becomes whether and how the federal government shapes the design of state (and local) accountability systems to ensure that all students meet the same state (and/or district) standards—whatever their content.

Notes

[1] The 12 state case study states are California, Colorado, Florida, Kentucky, Maryland, Michigan, Minnesota, Missouri, Nebraska, New Mexico, Pennsylvania, and Texas. Together they educate about 43 percent of the United State's public school students. These state case studies were conducted by the Consortium for Policy Research in Education (CPRE) and the Center for Policy Research on the Impact of General and Special Education Reform (the Center) in 1996-97. Information on state accountability policies was updated in 1998.

[2] The 24 district case studies are of three districts each in California, Colorado, Florida, Kentucky, Maryland, Michigan, Minnesota and Texas. The districts are diverse representing a range in size, race/ethnicity, urbanicity, and socio-economic status; however, districts were selected for their activism in school improvement and standards-based reform. These district case studies were conducted by CPRE in 1997-98.

[3] This decrease was calculated based on change in performance gap between percent of students, grades 3-8 and 10, passing all tests in 1994 and 1998. TAAS results are reported by the Texas Education Agency: http://www.tea.state.tx.us/student.assessment/results/swresult/gr310au98.htm.

[4] Among a group of students, each student takes only a portion of the overall test but no one student takes the entire test) as a way of obtaining reliable results on performance-based and open-ended items without unreasonable test burden (Burstein, 1994). However, parents, the public, and politicians have been clamoring for individual student scores which matrix sampling does not provide (because no student takes the entire test).

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CONCENTRATION OF POVERTY AND THE ONGOING NEED FOR TITLE I

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OVERVIEW

In 1966, the Coleman Report, a landmark federally-funded study, identified the persistent effects of entrenched poverty on children's achievement. The study concluded that family background has a greater influence on student achievement than schools do. It coined the phrase "culture of poverty" and offered little hope that schools alone could break the connection between poverty and low achievement.

In the years since the Coleman report, the link between poverty and low achievement has become an unquestioned assumption behind such federal programs as Title I and Head Start. For example, many urban school districts routinely report data disaggregated by students' free lunch status, and researchers such as Bracey (1991 and following) and Berliner and Biddle (1995) often cite increasing poverty as a factor in the plight of urban schools.

The fact that poverty has a profound effect on achievement has been well established. But the mechanisms that produce this effect are not nearly as clear. Some authors speak of the lack of academic enrichment in poor families (Taylor and Wang, 1997). Others cite poor nutrition, both pre-natal and in early childhood (House Committee on Education and Labor, 1994). Others focus on education being pushed aside by the stresses of meeting basic needs. Still others speak more generally of a cycle of low expectations in multi-generational poor families (Taylor and Wang, 1997).

Recently, some public policy researchers have begun to look at concentration of poverty, rather than poverty itself, as the culprit. Initially, they viewed the concentration of poverty as simply a cumulative effect of the poverty of individual students (Chou & Coulton, 1990). However, in a 1992 study, Anderson et al. identified an environmental effect that was more than the simple cumulative effect of individual students' poverty levels. But that study did not attempt to distinguish the effect of different environments: the effect of the poverty level of the student's school, and the effect of the poverty level of the student's neighborhood. Instead, it only focused on the effect of the poverty level of the student's school. Ellen and Turner (1997) recently reviewed the literature on the role that neighborhood conditions play in shaping individual outcomes in several realms. They cite a wide array of studies showing that conditions ranging from income levels to unemployment to housing types influence many outcomes for individuals, including educational success, but caution that the causal mechanisms have not been established.

This paper draws upon data from a series of studies I have conducted on the effect of poverty on student achievement, examining the prevalence of poverty in the student's neighborhood and the student's school as separate factors from the student's own economic status. It uses data from four interlocking studies:

1. a study first conducted in the 1995-96 school year in a single district, then replicated in the following two years in that district;
2. a replication of the study in three other districts with data from the 1997-98 school year;
3. a study using a merged data set from all four districts during the 1997-98 school year; and
4. a longitudinal study of student mobility using data from the three years in the first district.

These studies lead to the overwhelming conclusion that the degree to which poor children are surrounded by other poor children—both in their neighborhood and at school—has as strong an effect on their achievement as their own poverty.

Concentration of poverty in the neighborhood and the school affects all children, poor and non-poor. The effect is particularly pronounced when the high concentrations of poverty are found in the neighborhood where the student lives. Students of similar economic status do better if they live in middle-class neighborhoods than if they live in overwhelmingly poor neighborhoods.

These studies also uncovered some mitigating factors. There is some benefit when students from poor neighborhoods attend more affluent schools. Students from poor neighborhoods also do better if

their housing has been stable for several years, but neither of these factors comes close to erasing the differences traceable to concentrated poverty.

At first glance, the policy implications of these studies seem to be broader than can be addressed by Title I alone, as the findings speak as much to housing patterns as they do to schooling. Some would hold it to be a gratuitous distinction that school district and city boundaries are legal and political artifacts perpetuating a segregated treatment of the poor, and that "failing to link housing and education implicitly accepts segregation as a policy matter" (Powell, 1996). Such discussions aside, these housing patterns are an undeniable fact of our current American society. These studies thus show the continuing urgent need for federal programs like Head Start and Title I, whose purpose is to address the negative effect of those housing patterns on children by providing them with additional resources and assistance.

There are some specific directions that these studies suggest for Title I programming. First, the funding formula needs to include an adjustment for schools and districts that have *geographic* concentrations of poor children. Rather than giving a simple across-the-board increase in funding, the federal government should create incentives, awarding additional funds to those schools that adopt proven, research-based practices.

When a whole district in an urban area has concentrations of over 60 percent poor children (as two of the four districts in these studies do), the district can no longer rely solely on its own internal efforts. Demonstration grants for innovative programs—such as integrated community service models or inter-district choice programs that allow urban students to attend suburban schools and vice versa—could help identify effective ways to address the issue.

It is important that Title I be seen not simply as a funding mechanism, but as a means to identify effective programs for aiding students in poverty. Title I, as it was originally conceived, did not include a significant research function. But for these programs to improve the educational lives of the children they serve, there must be both effective evaluation of existing programs as well as a carefully-focused research and development effort to identify promising new approaches. The concentration of poverty in our cities is constantly increasing. To address the educational needs that arise from that concentration requires considerable political will coupled with a strong knowledge base of proven educational practice.

THE STUDIES

The Population

The four studies used data drawn from four different school districts. One of the four studies also examined a single district over a three-year period to examine long-term effects. Each of the four districts has a wide variety of neighborhood and school economic levels and a racially diverse population. In two districts, strong school-choice programs have resulted in half or more of the students attending schools other than their neighborhood schools. In the other two districts, there is much less intradistrict movement. Some characteristics of the four districts are summarized in Appendix A.

For the single year that all four districts were studied (1997-98), the data account for more than 60,000 students in grades 2-8. In the district that was studied over a three-year period of time, the population studied included more than 20,000 students each year in grades 2-8. As these could be considered to be data on populations, rather than samples, I generally report the results in terms of the *size of effects* rather than in terms of *statistical significance*. The effects of both individual poverty and environmental poverty on student achievement were quite substantial, as I will show.

Method

These studies began by mapping students' residential addresses to neighborhood boundaries, specifically block groups as defined by the federal census. Block groups are appropriate because they are generally homogeneous areas. They also are just the right size: small enough to give a lot of precision (as opposed to such larger units as zip codes, for instance) yet still large enough to produce stable numbers so that data about the students will not change dramatically if a few students move.

The "neighborhood poverty" variable was defined as the percentage of students receiving free or reduced-price lunch in each block group.

Similarly, **the "school poverty" variable** was defined as the percentage of students in the school receiving free or reduced-price lunch.

The "individual poverty" variable was the student's own free or reduced-price lunch status.

(Appendix B shows the distribution of individual poverty within school and neighborhood poverty categories.) Other background variables that were included were the student's race, Special Education status, and Limited English status.

To date, the studies have focused on achievement as measured by standardized test scores. Because different districts give different tests, the scores were converted to a common scale, namely stanines, which are a nine-point scale with an average value of five. (To put the scale in perspective, one stanine would be roughly a hundred points on the combined SAT score.) Different testing practices also make it difficult to compare data directly from one district to another, even though the results were quite consistent from district to district. The only analysis involving merged data from all four districts was an analysis of reading scores.

Initial efforts to separate the two effects (the individual's own poverty vs. the broader environmental effect) used multiple regression, trying to develop a prediction equation that would show the relative strength of each variable. Unfortunately, this approach is not very conclusive when dealing with variables that are highly correlated with each other in the way that individual poverty, school poverty, and neighborhood poverty are. By way of illustration, 80 percent of poor students live in areas of concentrated poverty (areas with 60 percent free/reduced lunch or higher). (See Appendix B.) These 80 percent will have an overwhelming influence on the regression equation, potentially masking the neighborhood effect. Economic variables are also highly correlated with race and Limited English status, so a different approach was clearly indicated.

Separating the effects in a way that would allow clear presentation required a more simplistic approach. Neighborhoods and schools were classified into five economic bands, labeled:

Extreme Poverty	-	(80 to 100 % free and reduced-price lunch);
Concentrated Poverty	-	(60 to 80 % free and reduced-price lunch);
Moderate Poverty	-	(40 to 60 % free and reduced-price lunch);
Lower Poverty	-	(20 to 40 % free and reduced-price lunch); and
Affluent	-	(0 to 20 % free and reduced-price lunch).

It was then possible to compare test score patterns for the three categories of students (free lunch, reduced-price lunch and no subsidy) living in each of the five neighborhood types. Figure 1 shows a map of one of the districts with block groups shaded to indicate the different levels of neighborhood poverty.

Limited English students and Special Education students were not spread evenly across neighborhood types, but were concentrated in poorer neighborhoods. Either of these factors might also explain low test scores, so the above analyses were repeated, excluding the Limited English and Special Education students.

Another analysis examined school poverty levels in a similar way. Schools were divided into the same five categories according to their levels of poverty (ranging from Extreme Poverty to Affluent) and student scores compared for each level of individual poverty. Again, I compared the performance of students who were from similar economic levels (free lunch, reduced price lunch, etc.), but attending different types of schools. In two of the districts, there were no schools in the "below 20 percent" (Affluent) band and in one of the districts, there were no schools in the two highest poverty ranges (Extreme and Concentrated Poverty). For that reason, the only analysis reported here was the one conducted on the merged file of all districts' reading scores.

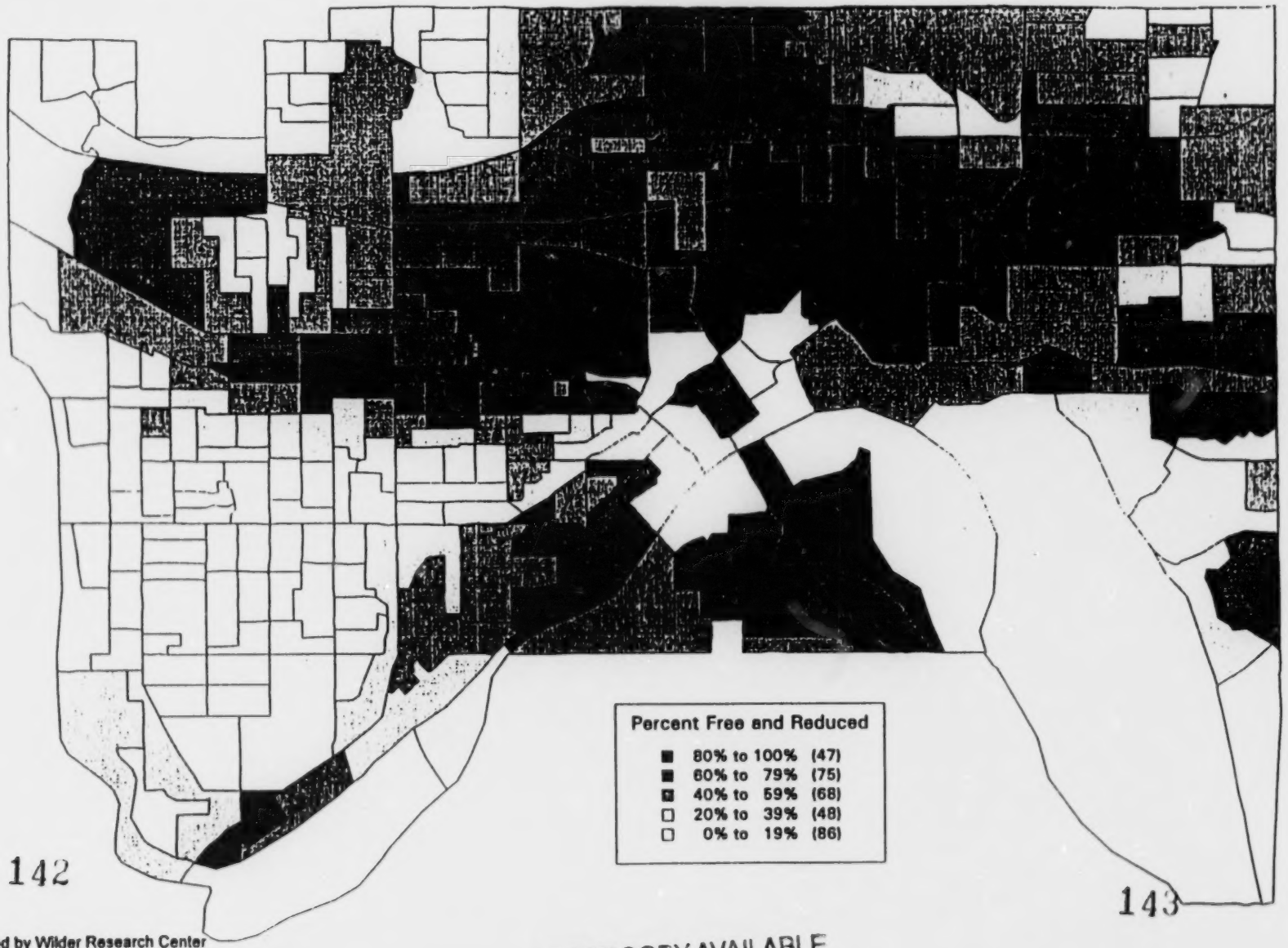
RESULTS

In the regression analyses of test scores, the first and second variables to enter the equation were always individual poverty and neighborhood poverty, although the order of their entry varied. Once those two variables were accounted for, the other predictors (race, Limited English status, school poverty) added very little to the predictive power of the equation. Results of the regression analyses from a typical year in one district are shown in Table 1. Some other results of the regression analyses are presented in Appendix C.

The analysis of test scores by neighborhood type yielded two primary results. First, at each neighborhood economic level, the free lunch group scored the lowest, the reduced-price lunch group scored better, and the non-eligible group (no lunch subsidy) scored the highest. This is very consistent with past research. These differences ranged from 1.2 to 1.7 stanines at each neighborhood level.

Figure 1. Children Receiving Free or Reduced Lunches

Percent of children by blockgroup



Prepared by Wilder Research Center
July 22, 1997
Source: St. Paul Student Accounting

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TABLE 1

RESULTS OF REPRESENTATIVE REGRESSION ANALYSES (1996-97 SCHOOL YEAR, DISTRICT A)

Dependent variable – Reading

Independent variables in order of entry	R^2 after entry	Addition to explained variance	*p*	Final beta weight
Neighborhood poverty	.24	24%	<.001	-.264
Individual poverty	.30	6%	<.001	-.250
Special Education status	.33	3%	<.001	-.181
Race	.34	1%	<.001	-.152

Dependent variable – Mathematics

Independent variables in order of entry	R^2 after entry	Addition to explained variance	*p*	Final beta weight
Individual poverty	.17	17%	<.001	-.224
Neighborhood poverty	.21	4%	<.001	-.220
Special Education status	.24	3%	<.001	-.181
Race	.25	1%	<.001	-.111

The second finding is that all groups (free lunch, reduced-price lunch, and non-eligible) showed a steady decline in test scores from the Affluent neighborhoods to those of Extreme Poverty. These declines ranged from 1.3 to 2 stanines.

A subsidiary finding was that the gap between free and non-eligible students decreased as the economic level of the neighborhood declined. In other words, the least difference in test scores is found in the poorest neighborhoods. When LEP and Special Education students were removed from the sample, scores rose across the board, but the magnitude of differences remained approximately the same. Table 2 presents a typical set of results, which are graphed in Figure 2. More detailed analyses appear in Appendix D.

The analyses by school poverty level showed similar patterns to neighborhood poverty level, but slightly less pronounced. At each level of school poverty, the free lunch students scored the lowest, the non-eligible group the highest, and the reduced-price group in between. But the decline in each group from the most affluent to the most impoverished category of schools never exceeded 1.5 stanines (Table 3).

Of particular interest in both the neighborhood and school analyses were students receiving reduced-price lunch. In each of the other categories, an argument could be made that a wide range of income exists within the category. For instance, students receiving free lunch would range from children of stable, low-income homes to homeless children with no visible means of support. Reduced-price lunch, on the other hand, represents a rather narrow band of income levels, so these students could truly be seen as being at a similar level economically.

Figure 2. Basic Battery Test Scores by Student's Lunch Status and Neighborhood Economic Level – 1996-97

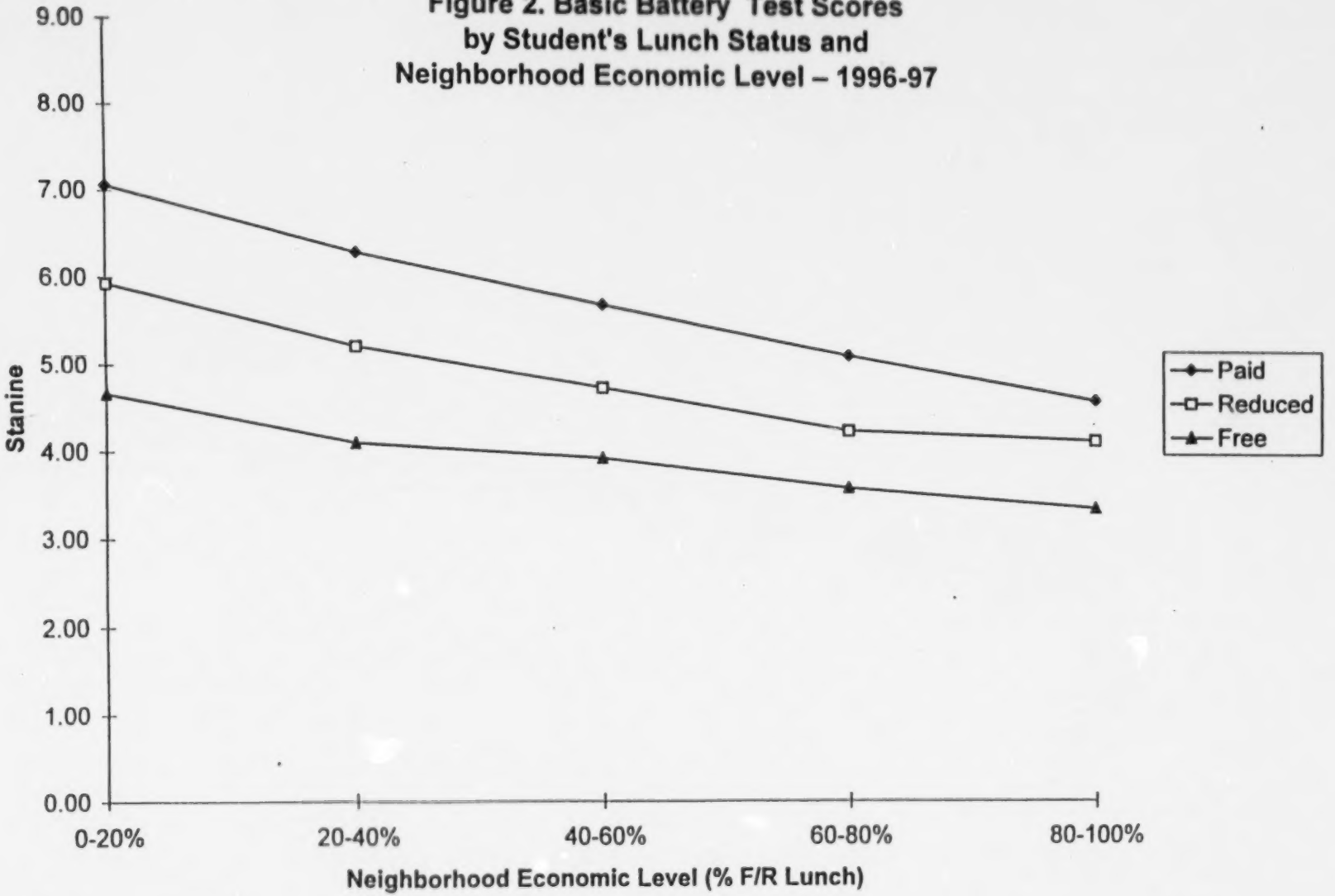

TABLE 2

BASIC TEST BATTERY RESULTS IN 1996-97 ACCORDING TO STUDENTS' ECONOMIC STATUS AND NEIGHBORHOOD TYPE

Neighborhood Type

Students' status	Extreme Poverty	Concentrated Poverty	Moderate Poverty	Lower Poverty	Affluent	Total
Free Lunch	3.40	3.62	3.96	4.12	4.66	3.61
Reduced Lunch	4.19	4.29	4.77	5.24	5.93	4.57
No Subsidy	4.67	5.18	5.75	6.33	7.07	6.03
Total	3.56	4.07	4.90	5.75	6.90	4.56

Note: All scores shown are mean stanine scores for the group in question.

TABLE 3

READING TEST RESULTS FOR COMBINED DISTRICTS ACCORDING TO STUDENTS' ECONOMIC STATUS AND SCHOOL ECONOMIC LEVEL

Percentage in School Receiving Free or Reduced-Price Lunch

Students' status	80-100%	60-80%	40-60%	20-40%	0-20%	Total
Free Lunch	3.34	3.55	3.76	4.27	4.81	3.56
Reduced Lunch	4.16	4.38	4.52	4.97	5.33	4.51
No Subsidy	4.96	5.29	5.94	5.90	6.25	5.92
Total	3.62	4.14	4.94	5.47	6.12	4.85

Note: All scores shown are mean stanine scores for the group in question.

Extended analyses

One of the biggest stresses on poor families is finding and keeping affordable housing. Recent studies in two of the districts have documented the effect of high mobility on students and it is generally negative. Both short-term mobility (multiple moves during the school year) and longer-term mobility (less than three years in the same school) have been implicated. Using the district for which I had three years' worth of data, I defined three groups:

1. those who had been living at the same address for all three years;
2. those who had been in the district all three years, but not at the same address; and
3. those who had moved from district to district during the three year period.

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First of all, the majority (about 80 percent) of low-income students tested in the third year of the study had lived in the district for the full three-year period. Just over half of that group had lived at the same address for the full period. Thus, about 40 percent of the low income students tested at the end of the three years could be classified as having a stable address; a further 40 percent were stable in the district but not at the same address; and 20 percent had experienced inter-district movement. (This latter percentage is probably understated. The most mobile students are the most likely to be missed in a district-wide testing program, which typically occurs over a one-week period during the year.)

In terms of achievement, the students in the most stable group enjoyed an advantage of about a quarter to a third of a stanine over the second group, when compared to students with the same individual and neighborhood poverty levels. The scores for students moving between districts were the lowest of all,

averaging another quarter to a third of a stanine lower. These differences, though noteworthy, are substantially less than those attributed either to individual poverty or neighborhood poverty.

A second extension of the basic studies looked at students from impoverished neighborhoods attending more affluent schools. This analysis for any single district involved too few students to yield stable results. The two districts with a high level of school choice both have over 60 percent of students receiving free or reduced-price lunch, so most of the schools fall into the highly-impacted categories. Thus, this analysis used the merged file of all districts' reading scores. Students from the poorest neighborhoods attending the most affluent schools showed markedly higher scores, but these results were not as strong with less extreme shifts, such as when a student moved from an area of, say, 60 to 80 percent poverty (Concentrated Poverty) to a school between 20 and 40 percent (Lower Poverty).

Conclusions and Policy Implications

The major conclusions from these studies are rather simple. First of all, the studies reaffirm the proven link between poverty and low academic achievement. *However, they go much farther to demonstrate that children in impoverished neighborhoods are hurting academically, not just from their own poverty, but from the poverty that surrounds them.* Children in similar economic circumstances but living in more affluent neighborhoods are achieving substantially better. *In fact, it appears that the prevalence of poverty in the neighborhood is as strong a factor in student achievement as is the student's own economic status. Furthermore, the negative effects of concentrated poverty are not simply restricted to poor children.* Those students receiving no lunch subsidy are also achieving much less if they live in impoverished neighborhoods or attend high-poverty schools.

There are some obvious implications of these findings for compensatory programs such as Title I and Head Start. *The first and most important point is that more than ever there is a strong need for programs that are specifically designed to compensate for the negative effects of poverty.* They need to target the aid specifically to impacted areas and not simply to transfer funds to state and local jurisdictions to use as they see fit. Above all, as poverty becomes concentrated in the neighborhood and school, so should the degree of compensatory programming.

In practical terms, these studies provide a serious argument for a funding formula which includes adjustments for schools and districts that have geographic concentrations of poor children. An example of such a formula can be found in the Compensatory Aid program in Minnesota. The dollar amount per low-income child under this program is tied to the percentage of poor children in the school. Such an approach to the funding formula would simply expand to a state or federal level the system that is used within districts for disbursing Title I monies to the schools, namely targeting the funds on the most needy. It could also eliminate the type of disparity that can send Title I funds in affluent districts to schools with 30 percent low-income children yet deny the funds to schools with over twice that percentage in the urban core.

It is important that any such modification should be structured, not simply as an increase in funding, but as an impetus for improving practice in the schools. To make the most effective use of funding, the long tradition of program evaluation in Title I needs to be expanded to include research and demonstration projects. Current evaluation efforts have already identified characteristics of some programs that are working well. Some additional promising lines of research are suggested by the other studies in this volume.

Test scores improve when poor children move to more affluent schools. Thus, in districts where the areas of concentrated poverty are relatively small and distinct, there is substantial advantage to schemes that distribute students from poor neighborhoods to more affluent schools. However, in school districts with the largest areas of concentrated poverty, there is a point of diminishing returns. Both the number of students to be dispersed and the size of the concentrated areas are so large that such a solution will not work on its own. In a district with 60 percent of students on free or reduced-price lunch, simply evening out the schools would mean that everyone has 60 percent poor children–hardly an ideal solution.

In these cases, interdistrict programs have great promise, bringing inner city and suburban students together. This is by no means a new idea. For instance, Green (1985) chronicles inter-district efforts in the Wilmington, DE area beginning in the mid-1970s. States such as Florida and Nevada organize their schools in county districts which generally cross urban/suburban boundaries. Not coincidentally, these are often states with strong records of school integration (Orfield, 1966). However, where there is no explicit state action encouraging inter-district movement, students are largely bound to their resident district.

There are two versions of inter-district movement, both of which are desirable: First are district-level collaboratives aimed at bringing students together from adjoining districts. A high-poverty district teams up with two or three of its neighboring districts to establish collaborative schools that draw students from a mixture of neighborhoods. *It is well within the scope of Title I to support a few well-placed demonstration projects exploring the most effective way to implement such cooperative programs.* The second version of inter-district movement is movement by individual students away from schools which are not serving them well. It is not sufficient to assert the student's right to make such a move. There needs also to be a simple procedure in place for the student to follow. As an incentive to the receiving district, all funds generated by that student (including Title I funds) should follow the student.

Poor families suffer many types of stress, all of which could explain part of the negative effects on achievement. Inadequate housing or nutrition, poor parental education, even lack of quiet places to study have effects on students' achievement. Social services are available to address many of these needs, but they are often spread out and may be difficult for families to access. Integrated community services located at the school have great potential for addressing the multiple family stresses arising from poverty (cf. Dryfoos, 1994). Very little new funding would be required. Rather, coordination of agencies would put current funds to more effective use. Again, demonstration projects are needed.

In most urban districts, the redistribution of students into more affluent schools will still leave many schools and neighborhoods with high concentrations of poverty. Improving access to social services will help remove some of the negative effects of concentrated poverty, but the most important research and demonstration role that Title I can play is to identify programs that work. Increasingly, programs are being identified that are effective in areas of concentrated poverty, as the other papers in this series show. Title I must be seen as a vehicle to disseminate successful approaches, not simply as a source of funding for low income schools.

The policy implications of these studies appear to go well beyond instruction and school funding into housing policy. As I have already pointed out, this may be an artificial distinction. There will be areas of concentrated poverty as long as public policy allows urban decay on the one hand and exclusionary zoning practices on the other. Although many would see this solely as an urban problem, the negative effects of this concentration spread throughout our society. In particular, these effects perpetuate themselves when they are manifested in the achievement of future generations of children. Some housing developments in Canada and elsewhere have shown the value of having a range of housing values in any new housing development. This broader consideration needs to be part of the discussion when discussing the education of children in poverty.

APPENDIX A

CHARACTERISTICS OF THE POPULATION

	District A			District B	District C	District D
	Yr.1	Yr.2	Yr.3			
District type		Urban		Urban	Suburban	Urban/ suburban
Students in sample	21,465	22,063	24,632	26,660	5,399	26,967
Eligible – free lunch	55%	56%	59%	62%	16%	22%
Eligible – reduced-price lunch	6%	6%	8%	8%	6%	6%
Percent Caucasian	46%	42%	39%	31%	81%	66%
Percent African American	21%	22%	23%	44%	9%	9%
Percent Hispanic	6%	7%	8%	5%	6%	6%
Percent Asian	26%	27%	28%	13%	4%	6%
Percent American Indian/ Alaskan Native	1%	2%	2%	6%	1%	12%
Percent Limited English	25%	25%	29%	15.9%	N/A	13.2%
Receiving Special Education	11%	11%	12%	N/A	10.2%	10.8%

APPENDIX B

NUMBERS OF STUDENTS BY NEIGHBORHOOD, SCHOOL AND INDIVIDUAL POVERTY LEVELS

District A, Year 1

Neighborhood Percentage	Students' Status	Percent Free/Reduced Lunch in School 0-20%	20-40%	40-60%	60-80%	80-100%	Total
0-20%	Free	--	41	100	79	5	225
	Reduced	--	21	29	23	1	74
	Not Eligible	--	749	1089	397	24	2249
20-40%	Free	--	52	238	401	52	743
	Reduced	--	18	90	112	5	225
	Not Eligible	--	250	661	663	44	1618
40-60%	Free	--	95	482	1104	181	1862
	Reduced	--	22	92	235	31	380
	Not Eligible	--	156	470	776	90	1492
60-80%	Free	--	238	914	3083	1166	5401
	Reduced	--	27	160	366	115	668
	Not Eligible	--	138	411	886	236	1671
80-100%	Free	--	227	1090	3113	1930	6360
	Reduced	--	15	71	221	96	403
	Not Eligible	--	42	111	232	121	506
Total	Free	--	653	2824	7780	3334	14587
	Reduced	--	103	442	957	248	1750
	Not Eligible	--	1335	2742	2954	515	7546

APPENDIX B (CONTINUED)

NUMBERS OF STUDENTS BY NEIGHBORHOOD, SCHOOL AND INDIVIDUAL POVERTY LEVELS

District A, Year 2

Neighborhood Percentage	Students' Status	Percent Free/Reduced Lunch in School 0-20%	20-40%	40-60%	60-80%	80-100%	Total
0-20%	Free	--	43	67	54	10	174
	Reduced	--	11	29	20	4	64
	Not Eligible	--	810	978	271	36	2095
20-40%	Free	--	55	178	285	42	560
	Reduced	--	14	70	85	13	182
	Not Eligible	--	227	596	568	63	1454
40-60%	Free	--	94	332	804	369	1599
	Reduced	--	15	70	230	75	390
	Not Eligible	--	181	441	773	208	1603
60-80%	Free	--	160	724	2030	2089	5003
	Reduced	--	36	114	311	284	745
	Not Eligible	--	122	353	738	458	1671
80-100%	Free	--	329	1143	2782	3325	7579
	Reduced	--	23	86	189	205	503
	Not Eligible	--	66	120	320	231	737
Total	Free	--	681	2444	5955	5835	14915
	Reduced	--	99	369	835	581	1884
	Not Eligible	--	1406	2488	2670	996	7560

District A, Year 3

Neighborhood Percentage	Students' Status	Percent Free/Reduced Lunch in School 0-20%	20-40%	40-60%	60-80%	80-100%	Total
0-20%	Free	--	50	79	66	12	207
	Reduced	--	11	17	12	1	46
	Not Eligible	--	602	1011	295	27	1935
20-40%	Free	--	45	134	299	48	526
	Reduced	--	29	51	78	6	164
	Not Eligible	--	227	577	510	37	1351
40-60%	Free	--	79	251	1038	320	1688
	Reduced	--	19	64	276	41	400
	Not Eligible	--	123	413	921	136	1593
60-80%	Free	--	185	847	2856	1644	5532
	Reduced	--	45	128	457	202	832
	Not Eligible	--	103	351	866	304	1624
80-100%	Free	--	217	1051	3074	2545	6887
	Reduced	--	12	68	242	138	460
	Not Eligible	--	35	125	352	187	699
Total	Free	--	5576	2362	7333	4569	14840
	Reduced	--	116	328	1065	388	1897
	Not Eligible	--	1090	2477	2944	691	7202

APPENDIX B (CONTINUED)

NUMBERS OF STUDENTS BY NEIGHBORHOOD, SCHOOL AND INDIVIDUAL POVERTY LEVELS

District B

Neighborhood Percentage	Students' Status	Percent Free/Reduced Lunch in School 0-20%	20-40%	40-60%	60-80%	80-100%	Total
0-20%	Free	--	7	99	24	29	159
	Reduced	--	6	43	10	--	59
	Not Eligible	--	277	1484	208	30	1999
20-40%	Free	--	15	64	107	56	242
	Reduced	--	7	21	44	3	75
	Not Eligible	--	116	291	224	39	670
40-60%	Free	--	101	629	655	403	1788
	Reduced	--	24	172	166	67	429
	Not Eligible	--	259	1193	650	183	2285
60-80%	Free	--	58	572	1444	978	3052
	Reduced	--	18	98	286	128	530
	Not Eligible	--	64	396	737	185	1382
80-100%	Free	--	141	1798	3765	4824	10528
	Reduced	--	14	175	318	346	853
	Not Eligible	--	68	328	572	401	1369
Total	Free	--	322	3162	5995	6290	15769
	Reduced	--	69	509	824	544	1946
	Not Eligible	--	784	3692	2391	838	7705

District C

Neighborhood Percentage	Students' Status	Percent Free/Reduced Lunch in School 0-20%	20-40%	40-60%	60-80%	80-100%	Total
0-20%	Free	70	60	15	--	--	145
	Reduced	39	28	10	--	--	77
	Not Eligible	1492	647	127	--	--	2266
20-40%	Free	43	112	49	--	--	204
	Reduced	29	72	22	--	--	123
	Not Eligible	240	416	140	--	--	796
40-60%	Free	19	80	69	--	--	168
	Reduced	5	31	27	--	--	63
	Not Eligible	46	102	92	--	--	240
60-80%	Free	4	25	37	--	--	66
	Reduced	--	3	7	--	--	10
	Not Eligible	5	17	17	--	--	39
80-100%	Free	--	--	--	--	--	--
	Reduced	--	--	--	--	--	--
	Not Eligible	--	--	--	--	--	--
Total	Free	136	277	170	--	--	583
	Reduced	73	134	66	--	--	273
	Not Eligible	1783	1182	376	--	--	3341

APPENDIX B (CONTINUED)

NUMBERS OF STUDENTS BY NEIGHBORHOOD, SCHOOL AND INDIVIDUAL POVERTY LEVELS

District D

Neighborhood Percentage	Students' Status	Percent Free/Reduced Lunch in School 0-20%	20-40%	40-60%	60-80%	80-100%	Total
	Free	409	367	51	11	6	844
0-20%	Reduced	168	134	23	6	--	331
	Not Eligible	8907	3564	252	30	9	12762
	Free	222	1048	287	110	9	1676
20-40%	Reduced	72	550	66	15	1	704
	Not Eligible	1233	3585	599	142	9	5568
	Free	106	580	832	273	28	1819
40-60%	Reduced	32	149	254	58	2	495
	Not Eligible	283	935	964	202	6	2390
	Free	12	179	193	825	273	1482
60-80%	Reduced	5	37	31	123	8	204
	Not Eligible	54	166	113	346	50	729
	Free	1	88	110	41	622	862
80-100%	Reduced	2	2	8	6	34	52
	Not Eligible	8	45	43	11	60	167
	Free	750	2262	1473	1260	938	6683
Total	Reduced	279	872	382	208	45	1786
	Not Eligible	10485	8295	1971	731	134	21616

Combined Districts

Neighborhood Percentage	Students' Status	Percent Free/Reduced Lunch in School 0-20%	20-40%	40-60%	60-80%	80-100%	Total
	Free	347	320	154	55	22	898
0-20%	Reduced	154	133	77	24	1	389
	Not Eligible	8145	3863	2288	379	53	14728
	Free	207	791	362	339	68	1737
20-40%	Reduced	90	438	137	103	13	781
	Not Eligible	1254	2818	1185	727	88	6072
	Free	104	597	1172	1181	560	3614
40-60%	Reduced	33	160	350	353	113	1009
	Not Eligible	313	1038	1918	1243	304	4816
	Free	39	317	1137	2989	2268	6750
60-80%	Reduced	16	70	198	549	323	1156
	Not Eligible	99	271	681	1335	529	2915
	Free	61	424	2190	4880	5696	13251
80-100%	Reduced	8	31	207	411	432	1089
	Not Eligible	34	144	349	652	405	1584
	Free	758	2419	5015	9777	8614	26250
Total	Reduced	301	832	969	1440	882	4424
	Not Eligible	9845	8134	6421	4336	1379	30115

APPENDIX C

FURTHER RESULTS OF REGRESSION ANALYSES

District A, Dependent variable – Reading, 1995-96

Independent variables in order of entry	R^2 after entry	Addition to explained variance	*p*	Final beta weight
Neighborhood poverty	.24	24%	<.001	-.267
Individual poverty	.30	6%	<.001	-.247
Special Education status	.34	4%	<.001	-.209
Race (White/student of color)	.35	1%	<.001	-.148

District A, Dependent variable – Mathematics, 1995-96

Independent variables in order of entry	R^2 after entry	Addition to explained variance	*p*	Final beta weight
Individual poverty	.17	17%	<.001	-.228
Neighborhood poverty	.22	5%	<.001	-.224
Special Education status	.26	4%	<.001	-.212
Race (White/student of color)	.27	1%	<.001	-.105

District B, Dependent variable – Reading

Independent variables in order of entry	R^2 after entry	Addition to explained variance	*p*	Final beta weight
Individual poverty	.24	24%	<.001	-.252
Neighborhood poverty	.28	4%	<.001	-.176
Race (White/student of color)	.30	2%	<.001	.193
Limited English Proficiency	.31	1%	<.001	-.118

District D, Dependent variable – Reading

Independent variables in order of entry	R^2 after entry	Addition to explained variance	*p*	Final beta weight
Neighborhood poverty	.09	9%	<.001	-.161
Race (White/student of color)	.14	5%	<.001	-.197
Individual poverty	.16	1%	<.001	-.164

APPENDIX D

REPRESENTATIVE TEST RESULTS BY STUDENTS' ECONOMIC STATUS AND NEIGHBORHOOD TYPE

District A, Year 1

Neighborhood Type

Students' status	Extreme Poverty	Concentrated Poverty	Moderate Poverty	Lower Poverty	Affluent	Total
			Basic Test Battery			
Free Lunch	3.30	3.49	3.74	4.27	4.68	3.52
without LEP, SpecEd	*3.52*	*3.77*	*4.02*	*4.61*	*5.16*	*3.84*
Reduced Lunch	3.93	4.19	4.59	5.26	5.39	4.45
without LEP, SpecEd	*4.15*	*4.61*	*4.82*	*5.66*	*5.66*	*4.85*
No Subsidy	4.52	4.97	5.61	6.08	6.83	5.88
without LEP, SpecEd	*4.80*	*5.23*	*5.83*	*6.30*	*6.98*	*6.13*
Total	3.43	3.91	4.64	5.54	6.63	4.48
without LEP, SpecEd	*3.73*	*4.30*	*5.04*	*5.92*	*6.84*	*5.06*

District A, Year 2

Neighborhood Type

Students' status	Extreme Poverty	Concentrated Poverty	Moderate Poverty	Lower Poverty	Affluent	Total
			Basic Test Battery			
Free Lunch	3.40	3.62	3.96	4.12	4.66	3.61
without LEP, SpecEd	*3.47*	*3.82*	*4.23*	*4.58*	*5.07*	*3.80*
Reduced Lunch	4.19	4.29	4.77	5.24	5.93	4.57
without LEP, SpecEd	*4.44*	*4.61*	*5.14*	*5.64*	*6.32*	*4.93*
No Subsidy	4.67	5.18	5.75	6.33	7.07	6.03
without LEP, SpecEd	*4.90*	*5.44*	*6.01*	*6.48*	*7.17*	*6.28*
Total	3.56	4.07	4.90	5.75	6.90	4.56
without LEP, SpecEd	*3.73*	*4.38*	*5.32*	*6.09*	*7.05*	*5.06*

Note: All scores shown are mean stanines for the group in question.

APPENDIX D (CONTINUED)

REPRESENTATIVE TEST RESULTS BY STUDENTS' ECONOMIC STATUS AND NEIGHBORHOOD TYPE

District B

Neighborhood Type

Students' status	Extreme Poverty	Concentrated Poverty	Moderate Poverty	Lower Poverty	Affluent	Total
			Reading Test			
Free Lunch	3.26	3.64	3.90	4.19	4.47	3.42
without LEP, SpecEd	*3.36*	*3.73*	*4.00*	*4.31*	*4.63*	*3.54*
Reduced Lunch	4.11	4.29	4.65	5.16	4.85	4.36
without LEP, SpecEd	*4.22*	*4.49*	*4.65*	*5.21*	*4.95*	*4.49*
No Subsidy	4.81	5.41	5.67	5.92	6.55	5.83
without LEP, SpecEd	*4.86*	*5.44*	*5.69*	*5.96*	*6.55*	*5.86*
Total	3.47	4.23	4.88	5.48	6.41	4.27
without LEP, SpecEd	*3.60*	*4.38*	*4.99*	*5.56*	*6.44*	*4.48*

District D

Neighborhood Type

Students' status	Extreme Poverty	Concentrated Poverty	Moderate Poverty	Lower Poverty	Affluent	Total
			Mathematics Test			
Free Lunch	4.26	4.40	4.60	4.73	4.80	4.58
Reduced Lunch	5.04	4.82	4.92	5.20	5.17	5.04
No Subsidy	4.79	5.13	5.41	5.67	6.30	6.00
Total	4.39	4.68	5.06	5.44	6.19	5.68

Note: All scores shown are mean stanines for the group in question.

Combined Districts

Neighborhood Type

Students' status	Extreme Poverty	Concentrated Poverty	Moderate Poverty	Lower Poverty	Affluent	Total
			Reading Test			
Free Lunch	3.29	3.68	4.01	4.36	4.69	3.69
Reduced Lunch	4.12	4.30	4.65	5.04	5.08	4.35
No Subsidy	4.75	5.20	5.60	5.75	6.32	5.71
Total	3.50	4.16	4.89	5.40	6.20	4.82

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SELECTION AND EVALUATION OF LOCALLY DEVELOPED VERSUS EXTERNALLY DEVELOPED SCHOOLWIDE PROGRAMS

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SUMMARY

Schools can potentially take two pathways in creating an Schoolwide Program: developing a local design or selecting an external design. Local designs offer the opportunity for schools to adapt the design components and strategies to the unique goals, interests, and resources of the school community. On the other hand, creating a local design that integrates comprehensive components, provides appropriate professional development, and reallocates resources effectively for fully implementing the Schoolwide Program can be challenging.

While research on locally vs. externally developed Schoolwide Programs is scarce and the findings equivocal, the available evidence generally seems to support external models with regard to both implementation quality and student achievement. For example, research on Schoolwide Programs conducted by the authors and their associates have shown positive findings in both Tucson and Memphis for Title I schools using external designs relative to schools using locally developed designs. However, these findings were largely associated with a specific external design, Success For All (Roots and Wings), which was the exclusive or predominant model employed at the participating schools.

Even if the research evidence were conclusive, it should not be interpreted as meaning that local models should never be used. Such models can be highly effective (and potentially more effective than external ones) if well planned and appropriately implemented. However, with the advent of New American Schools, which is sponsoring eight existing external models, and the Obey-Porter Comprehensive School Demonstration Program competitions, impetus is being created for the selection of research-supported external designs. Consequently, locally developed designs may become less common than in the past.

Regardless of which type of Schoolwide Program a school employs, systematic formative and summative evaluation is essential. Unfortunately, federal policies for both Title I and the Comprehensive School Reform Demonstration program are vague regarding the expectancies, standards, and procedures for conducting evaluations and disseminating results. States and school districts need to have more clearly defined roles and adequate resources for monitoring the implementation and evaluation of Schoolwide Programs. In our approach, we encourage the use of multiple assessments that help schools to understand not only their degree of success but also the reasons for the outcomes attained. Particularly valuable instrumentation for these purposes include benchmark attainment, teacher/principal reactions, classroom observation, school climate, and student achievement. For assessing student achievement, we define four levels of evaluation designs, the most rigorous of which involves the comparison of Schoolwide Program outcomes on both standardized and performance tests to those of matched control schools. Valid evaluation is essential for schools to refine their Schoolwide Programs and document their effects to support dissemination at additional schools.

INTRODUCTION

As research on Chapter 1 and Title I interventions have shown, the availability of additional financial resources does not guarantee that schools will deliver more effective educational programs to poor children (Berman & McLaughlin, 1978; Stringfield et al., 1996; Wong, Hedges, Borman, & D'Agostino, 1996). However, schoolwide programs—which give schools more flexibility in how they use their Title I money—can serve as an important catalyst for school improvement by stimulating change efforts at the individual school level and by enabling schools to devote underused resources to support organizational improvement (Berman & McLaughlin, 1978; Stringfield et al., 1996). An important aspect of Title I's current emphasis on schoolwide programs is that it helps focus restructuring activities and related resources on the establishment of comprehensive, whole-school reform programs that impact the entire school.

The present chapter will focus on two areas of whole-school restructuring with which we and our

colleagues at the University of Memphis (e.g., Ross, Troutman et al., 1997; Smith et al., 1998) and our partners at Johns Hopkins University (Stringfield, Datnow, Herman, & Berkeley, 1997; Stringfield, Ross, & Smith, 1996) have worked most extensively. One is the selection or development of a Schoolwide Program by an individual school. The second is a two-fold evaluation of the Schoolwide Program: a formative evaluation that examines how well the program is operating while it is still under development, and a summative evaluation that examines whether the completed program has succeeded in achieving program goals (Scriven, 1972; Dick & Carey, 1991).

A major theme that emerges from these two topics is what role the federal government can play to ensure that accountability needs are effectively addressed at the individual school and district levels. In the section below, we will begin by examining the basic options that schools face in selecting a Schoolwide Program that best meets their needs.

SELECTION OF SCHOOLWIDE PROGRAMS

Locally developed vs. Externally developed Designs

Schools can potentially take two pathways in creating a Schoolwide Program: developing their own "local" school-reform design or selecting an existing "external" design developed by an outside group. These paths often overlap. For example, a locally developed Schoolwide Program might integrate an existing external program such as Reading Recovery (Pinnell, 1989, 1990) into its own overall plan to address a specific problem or need (see Stringfield et al., 1996). Similarly, an external model may be adapted to fit local needs better by including organizational structures, state or district standards, instructional strategies, or curricula (e.g., projects on state history or community interests) as a standard part of its implementation.

Despite the degrees of overlap, the external versus local development paths represent fundamentally different approaches to restructuring. The *local approach* assumes that local school personnel are best (or, at least, appropriately) situated to define and address their own unique educational needs, and that commitment to carrying out the plan may be higher if the school's staff has a major role in developing the plan. In contrast, the *external approach* assumes that at some schools share similar problems that can be addressed through relatively uniform solutions that are well developed and evaluated.

The question of local versus external development has been problematic for decades. Since the publication of the RAND Change Agent Study (Berman & McLaughlin, 1978), many educators and researchers have believed that schools are unlikely to effectively implement or maintain innovative reform models unless their staffs have a major role in developing them. However, research in the two decades following the Change Agent Study has qualified these findings. For instance, Crandall et al. (1982) found that, while either approach can work, local development efforts tended to be far more expensive and were less likely to be successful. In comprehensive studies of several restructuring models of educational innovations, Bodilly (1996) and Stringfield et al. (1996) found that highly specified models that provided detailed student materials, teachers' guides, targeted training, and extensive follow-up were more likely to be implemented and maintained than models that required teachers to do a large portion of the development at each site. Although it is often assumed that teachers' ownership of a reform accrues through their participation in its development, Crandall et al. (1982) found that "ownership" was just as likely to accrue to externally developed reforms as to locally developed reforms. Teachers tended to view all reform initiatives as "external" whether they emanated from other teachers in their school, the district office, or a national program. The issue of teacher ownership of reform may have less to do with the locus of development than with whether the reform actually helps teachers accomplish their professional goals.

As will be discussed in a subsequent section of this paper, both externally developed and locally developed Schoolwide Programs can benefit considerably from systematic evaluations conducted within schools. Present federal policies for Schoolwide Programs do not explicitly require such evaluations, nor do they provide guidelines or standards for performing them. Consequently, substantive funding and effort are being devoted to implementing programs that may not be operating as desired. Although schools adopting external designs might have access to research literature to support the selected model, those using local designs will lack such evidence in the absence of studies they themselves perform or appropriate. Our main argument is that without systematic evaluation of Schoolwide Programs, we will lack a reliable and objective means for judging the success of the program, making needed refinements in its components, and disseminating the outcomes to inform the educational research community about both implementation processes (through formative evaluation) and educational outcomes (through summative evaluation).

Because such evaluations have historically received limited emphasis by Title I schools, we encourage mandating them as a part of the overall

Schoolwide Program requirements. Specifically, we propose the following components of a mandated evaluation plan for consideration:

- Each individual school should arrange for a formative evaluation of its Schoolwide Program.
- An external agency, such as a university or research center, would conduct the evaluation in partnership with the school, in order to increase objectivity and credibility of the findings.
- Congress should require a minimum budget allocation (say from $4,000-$6,000) to ensure that the basic costs of data collection, analysis, and reporting are covered.
- Requirements for the evaluation should specify general standards for the evaluation, while allowing for some flexibility in the choice of methodology and instrumentation. Such standards, for example, might call for second-party administration of instruments; use of multiple measures; a report specifying strengths, weaknesses, and recommendations; etc.
- The school or evaluators should share the results with the broader school community and with the school district.
- The school should develop a Schoolwide Program "action" or "improvement" plan on the basis of the evaluation.
- The school should include the evaluation report and action/improvement plan with standard documentation for funding of the Schoolwide Program.
- The school district should work with the schools on a collaborative (rather than a punitive or "top-down") basis to use the formative evaluation data to improve programs and district initiatives.
- Congress should encourage or sponsor research studies within districts and states that have high validity for making summative judgments about programs.

In a later section, we discuss strategies for formative and summative evaluations in more detail. Varied designs offering different levels of internal validity for assessing Schoolwide Program effects on student achievement are proposed.

Title I Schoolwide Programs

Although schools have had the option of establishing Schoolwide Programs under Chapter 1 since 1978, few schools implemented them because of the matching-funds requirements, which were dropped in 1988. Under the new Title I legislation, schools have considerable freedom to develop their own programs or implement externally developed reforms. The most common uses of Title I funds in locally developed Schoolwide Programs—beyond pullout programs and instructional aides—include class-size reduction, increased funding for staff development and instructional materials, and upgrading of computer resources (Stringfield et al., 1996). Staff development frequently revolves around establishing a schoolwide focus on achievement, and implementing principles derived from the "effective schools" literature (Winfield, 1991).

The effectiveness of locally developed Schoolwide Programs still remains in question (Pechman & Fiester, 1994; 1996; Stringfield et al., 1996). Earlier research on Chapter 1 schools, when Chapter 1 was operated more as a supplementary program, found that local projects that obtained high levels of reading achievement had incorporated Chapter 1 in a focused, schoolwide effort and it was well coordinated with the core instructional program (Venezsky & Winfield, 1979). Case studies of Schoolwide Programs conducted after the Hawkins-Stafford Amendments of 1988 highlighted the need for effective coordination and delivery of services connected to instructional processes at the school site (Winfield, 1991), although the focus was on the service provided by the district office rather than the external organizations working with the school, such as Reading Recovery or Success For All. Stringfield et al. (1996) found that the only locally developed Schoolwide Programs that managed to sustain reform and produced higher levels of achievement were those that received ongoing district support comparable to the support provided by an externally developed program, with the central office effectively serving as the external assistance organization. Therefore, as schools decide between externally and locally developed designs, they will be strongly influenced by the incentive and support structures perceived for each. This factor will come into play as schools compete in the present and coming years for federal support for schoolwide reform, as described in the next section.

The Comprehensive School Reform Demonstration Program

The external and internal pathways comprise the major choice for schools currently pursuing restructuring under the federally funded Comprehensive School Reform Demonstration Program (the "Obey-Porter" bill). The latter program gives funds to states to sponsor competitions that award individual schools at least $50,000 per year, for up to three years, to implement whole-school restructuring designs. The Comprehensive School Demonstration Program requires that programs approved by the states must meet nine criteria. Such criteria, as listed below, clearly have implications for

the ability of schools possessing varied resources and levels of teacher experiences and skills to realize success from locally versus externally developed designs.

1. Effective research-based methods and strategies
2. Comprehensive design with aligned components
3. Professional development
4. Measurable goals and benchmarks
5. Support within the school
6. Parental and community involvement
7. External technical support and assistance
8. Evaluation strategies
9. Coordination of resources

Looking at these components, some emerge as potentially more problematic for schools wanting to pursue the locally developed path. Specifically, developing a comprehensive design (see # 2 above) that integrates multiple components (e.g., teaching, curriculum, professional development, parent involvement, etc.) would typically be highly challenging for school staffs to accomplish on their own. The whole-school restructuring designs sponsored by New American Schools (see below), for example, were originally created by teams with much more expertise than school faculty are likely to possess in educational management, school finance, pedagogy, program design, and grant writing (Stringfield, Ross, & Smith, 1996). Even the funded New American Schools proposals required several years of continued tryouts and refinement before being considered ready for dissemination outside of pilot schools.

Providing adequate professional development (# 3) might also be quite difficult for an individual school or even a school district to accomplish. Specifically, employing school or local faculty to train others could be limited by the teachers' lack of expertise, time, or incentives. Using external trainers (in the absence of a known external model) would have the likely disadvantage of addressing the comprehensive Schoolwide Program as separate elements rather than holistically. External support and assistance (# 7) would be much less accessible and formalized than in the case where an external design team was involved. A school, for example, might select a university partner, but the partner's understanding of and commitment to the locally developed Schoolwide Program might be quite limited.

Although the Obey-Porter legislation includes evaluation as one of its primary components, the law does not specify policies for ensuring accountability and quality control of the actual studies, leaving this essentially to the Local Education Authorities (LEAs). Thus, it is likely that many Comprehensive School Demonstration Program programs will not be formatively or summatively evaluated. Encouragingly, the Department of Education is funding a large-scale study that will examine student outcome results (achievement and other variables) longitudinally from representative Comprehensive School Demonstration Program schools nationwide. A concern, however, is that in the absence of supplementary, more carefully controlled studies that examine program effects relative to implementation quality, teacher support, school leadership, and organizational changes, such evidence might be too limited and thereby possibly misleading from a policy perspective. The Obey-Porter legislation would clearly serve a valuable purpose by identifying effective schoolwide models and the processes through which they can be transported to and implemented in additional U.S. schools. In our opinion, its success at accomplishing this goal will be directly dependent on the validity of the evaluation/research studies performed.

What is emerging as the most influential initiative in American education to provide and promote externally developed schoolwide designs is the work of New American Schools. These designs, while intended for use across all levels of student ability and socioeconomic status, have been predominantly implemented in Title I schools during the first three years of scale-up. They have also been prominently considered among the whole-school designs in the Comprehensive School Demonstration Program competitions. A brief review of this initiative follows.

The New American Schools Initiative

Created in 1991 as part of Goals 2000, the New American Schools project was charged with securing financial support from foundations and corporations to fund new designs for "break-the-mold" schools (see Stringfield, Ross, & Smith, 1996). Out of 686 proposals submitted for the competition, New American Schools selected 11 to receive funding. Of these 11, nine were selected to receive continued support for three years of development. At the time of this writing, eight designs remain: ATLAS, Audrey Cohen College, Co-NECT, Expeditionary Learning/Outward Bound, Modern Red Schoolhouse, Urban Learning Centers, National Alliance/America's Choice, and Roots & Wings (Bodilly, Keltner, Purnell, Reichardt, & Schuyler, 1998). Providing meaningful descriptions of the individual designs is beyond the scope of this report (for such descriptions, see Stringfield, Ross, & Smith, 1996). Characteristic features of all or most include cooperative learning, thematic units, student-centered instruction such as independent work or

project-based learning, integrated curricula, multi-age grouping, adoption of high-level performance standards, site-based school management, community and family connection to schools, and authentic assessment of student learning.

In 1995, after supporting the development and piloting of the designs, New American Schools formally launched its dissemination or "scale-up" phase by inviting school districts and states to become participating jurisdictions. These participating districts and states would implement the designs in individual schools over a five-year period. The selected jurisdictions consisted of Memphis, San Antonio, Cincinnati, Dade County (Miami), Philadelphia, Pittsburgh, San Diego, the Washington Alliance, a group of school districts in Washington State, Kentucky, and Maryland.

Research on the New American Schools scale-up has been conducted on a national level by RAND Corporation (Bodilly et al., 1998); and in the Memphis jurisdiction by Ross and associates (Ross, Alberg, et al., 1998). The latter studies examined six New American Schools designs as well as two independent designs—Paideia, developed by Mortimer Adler (1982), and Accelerated Schools, developed by Henry Levin (1987). These studies have focused primarily on the rate and success of schools' implementation of the different externally developed restructuring designs. Among the key findings from the multiple studies are:

- Schools varied significantly in their implementation success, both within and across selected designs.
- The initial process by which schools select a design tends to be hurried; however, most schools made "reasonable" (rather than inappropriate) selections.
- The design teams varied in their ability to provide strong implementation support to the schools. Higher levels of implementation were associated with design teams possessing qualities such as stable leadership, sufficient capacity to serve the schools, training adapted to the types of schools served, and an emphasis on curriculum and instruction.
- Implementation was slower in high schools than in middle schools, and in middle schools than in middle schools.
- Stable and actively supportive district leadership was highly important to the success of the restructuring.
- Successful schools were effective at reallocating existing resources to support the whole-school reform effort.
- Principal leadership and teacher buy-in were critical variables.

With regard to instructional changes, Ross, Alberg et al. (1998) visited classrooms and conducted systematic observations of student and teacher activities. Across all of the designs, strategies the researchers frequently observed included: cooperative learning, math/reading groups, teacher feedback, student discussion, teacher questioning, and teacher-as-coach or facilitator. With the exception of the math/reading groups, all of these (especially cooperative learning and teacher-as-coach) seem consistent with the pedagogical goals and orientations of the different designs. Student-centered strategies were observed more frequently than in an earlier study conducted in comparable classes in the same school system (Ross et al., 1994), while direct instruction (teacher lecture or recitation) was less frequently observed in the restructuring schools. Instruction thus appears to be impacted directly by the design implementations.

The culminating question, of course, concerns the effects of restructuring designs on achievement. In a study by Ross, Sanders, Wright, and Stringfield (1998), student achievement in the 25 elementary schools comprising the initial restructuring cohort in Memphis (1995-1996 school year) was compared to that of students in matched control schools and all other Memphis elementary schools. To measure achievement, the study used scores on the Tennessee Comprehensive Assessment Program (TCAP), a form of CTBS-4 (CTB/McGraw-Hill, 1990), for five subjects (math, reading, language, science, and social studies) over three years of testing. It assessed year-to-year gains using the Tennessee Value-Added Assessment System (TVAAS) (Sanders & Horn, 1995a, 1995b; Wright, Horn, & Sanders, 1997).

Results showed that prior to the implementation of the school reforms, the 25 restructuring schools were lower-performing than the control schools and the other citywide elementary schools. After one year of implementation, restructuring schools were comparable to control schools in student-achievement gains. Although the literature suggests that successful restructuring takes five or six years (Herman & Stringfield, 1995; Levin, 1993), it is possible that the more active teaching and learning observed in qualitative studies (Ross et al., 1997) were having a positive impact that was bridging the initial performance gap. After two years of implementation, student achievement gains at restructuring schools were significantly higher than at the control schools and the citywide elementary schools. This result, coupled with the outcomes from the two prior years, provides suggestive evidence that the reform initiatives were having a positive impact on student learning. In a later section of this paper, we will return to this study to examine findings that

relate directly to the impact of externally developed designs (e.g., New American Schools and comparable models) in high-poverty Title I schools.

Recent Research on External versus Internal Designs in Title I Schools

Three of the largest American studies of educational change of the last quarter century have indicated that the careful, long-term implementation of externally developed improvement designs is a promising direction for reform (Crandall et al., 1982; Stallings & Kaskowitz, 1974; Stringfield et al., 1997). The Stringfield, Millsap et al. (1997) Special Strategies Studies was particularly encouraging regarding the promise of whole-school reform designs. Research reviews of Success For All (Slavin et al., 1996) and other whole-school designs (see Slavin & Fashola, 1998), have indicated that diverse designs hold promise for improving the academic achievement of large numbers of students who have been placed at risk of failure.

In the past several years, the Center for Research in Educational Policy at The University of Memphis has conducted evaluations of Title I Schoolwide Programs in Memphis City Schools and Amphitheater School District (Tucson). These studies have provided findings and perspectives regarding the effectiveness of the locally and externally developed design options.

In the Tucson study, Success for All (Ross, Smith, & Nunnery, in press) represented the externally developed Schoolwide Program; in the Memphis study (Ross, Sanders et al., 1998), Roots and Wings was the predominant external design (Slavin et al., 1996), although several other New American Schools and independent designs also contributed to the findings. Roots and Wings incorporates the Success For All reading program, while adding two additional major elements—"MathWings," a constructivist (student-centered) mathematics program, and "WorldLab," a project-based learning program that integrates concepts of social studies, science, and mathematics. During the period of the Memphis study, the latter two programs were still in the early stages of adoption, while Success For All was fully operational in the schools examined. Major components of Success For All include a research-based reading program, individual tutoring in reading, grouping of students in reading classes according to performance (with regrouping as they progress), a family support team, a full-time facilitator to manage the program and work with teachers, and extensive professional development for teachers (Slavin et al., 1996; Slavin, Madden, Karweit, Dolan, & Wasik, 1992).

Tucson. Participants in this study were 540 first-grade students in six schools. Schools were grouped into two socioeconomic strata, each containing three schools. Stratum 1 (lower-SES)–for which the mean number of students receiving free or reduced-price lunch was about 80 percent—was composed of one Success For All school and two schools implementing locally developed Schoolwide Programs. Stratum 2, for which about 45 percent of the students received free or reduced-price lunch, contained one Success For All school, one school using Reading Recovery as a targeted program within its locally developed Schoolwide Program, and the other school implementing a locally developed Schoolwide Program. Roughly half of the first graders in Stratum 1 but only one-fourth in Stratum 2 were native Spanish-speakers.

The locally developed Schoolwide Programs varied in nature and scope (see Ross et al., in press, for more detail). In short, they consisted of tutoring and pull-out support, school-selected reading curricula, the use of targeted instructional models, and organizational and scheduling mechanisms designed to decrease class size. First graders at the six schools were individually assessed at the end of the year on a reading test battery. Results showed that, regardless of socioeconomic stratum of the school or students' LEP status, Success For All students significantly outperformed their counterparts in schools implementing locally developed Schoolwide Programs. Further, Success For All-tutored students scored substantially higher on all posttests than students who received individual Reading Recovery tutoring or group tutoring. These findings support previous evidence regarding the effectiveness of Success For All in increasing reading achievement of disadvantaged children (Slavin, Madden, Dolan, Wasik, Ross, Smith, & Dianda, 1996). However, apart from the impacts of Success For All, the study also illustrated the struggles the four other schools experienced in creating and successfully implementing an effective comprehensive design.

First graders at the six schools were individually assessed at the end of the year on four reading tests measuring word identification, word attack, passage comprehension, and oral reading and comprehension. Results showed that, regardless of the socioeconomic stratum of the school or the student's LEP status, Success For All students significantly outperformed their counterparts in schools implementing locally developed Schoolwide Programs (see Figure 1). Further, Success For All-tutored students scored substantially higher on all posttests than students who received individual Reading Recovery tutoring or group tutoring. These findings support previous evidence regarding the effectiveness of Success For All in increasing reading achievement of disadvantaged children (Slavin, Madden, Dolan, Wasik, Ross, Smith, & Dianda, 1996). However,

apart from the Success For All impacts, the study also illustrated the struggles that the four other schools experienced in creating and successfully implementing an effective comprehensive design.

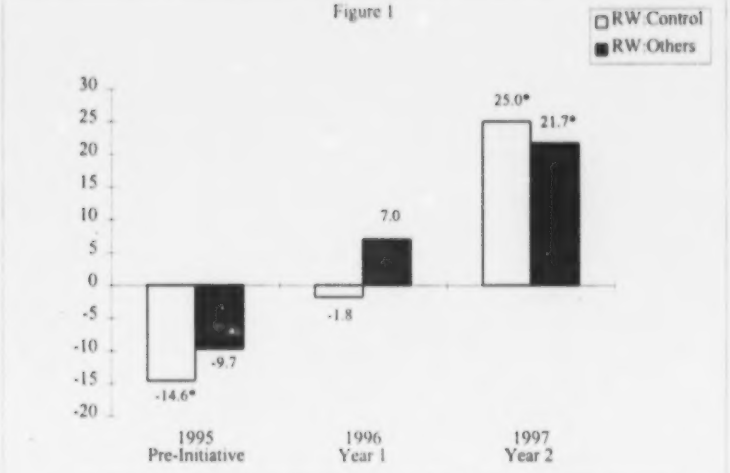
In a detailed series of case studies conducted several years ago, Stringfield and Yoder (1992) identified four qualities of the most successful Schoolwide Programs. The locally developed Schoolwide Programs examined in the Tucson research seemed reasonably strong on two of those qualities (district support and adequate resources) but weak on the other two (strong instructional leadership and focused academic programs with proven success). When the instructional/academic component of an Schoolwide Program is ineffective or underdeveloped, and large numbers of at-risk students are being served, then the value of a prescribed, highly academically-oriented design (such as Success For All) may be increased.

Memphis. As previously discussed, Ross et al. (1998) compared 25 restructuring elementary schools to matched control and other schools in Memphis, and found significant advantages for the restructuring schools after two years of design implementation. Part of this study involved examining achievement impacts associated with different designs. Because the designs were being implemented for the first time in the school district, in a small number of schools, and for a limited amount of time, it was decided not to identify the designs by name, with one exception. The superintendent had commissioned a special study of the eight schools that employed Roots and Wings, because the latter design was the mostly frequently used in the district and in Title I schools.

Three sets of findings are relevant to present interests regarding Title I Schoolwide Programs. In all cases, the dependent measure was the cumulative percent of the national gain (CPN) attained across five subjects and grades 2-5. (CPN indicates how much gain individual students make from year to year, in particular subjects and grades, relative to the national norm gain for those same subjects and grades. For example, if a sixth grade student's CPN was 100 in science, that student's gain would be identical to 100 percent of the norm gain for that subject; a CPN of 50, however, would indicate a gain of only half the norm.)

First, Roots and Wings schools, although significantly inferior in CPN to control schools prior to restructuring, were significantly superior at the completion of Year 2. Specifically, the Roots & Wings schools averaged 25 CPN points higher than the control schools (see Figure 1). A second externally developed design, not identified due to including less than five schools, was also used exclusively in Title I schools. In comparison to control schools, it showed no difference prior to restructuring, but a statistically significant (diff. = 21.6 CPNs) advantage in Year 2. Third, an overall analysis involving all 25 schools was performed using a program x SES design; in other words, this analysis examined the interaction between the program design itself and the student's socioeconomic status. The SES variables consisted of four clusters of schools, the lowest two (Clusters 1 and 2) of which were the highest poverty and all Title I Schoolwide Programs. The program x SES-cluster interaction was only significant in Year 2. It showed that the external programs impacted student achievement gain in Clusters 1 and 2 (the highest-poverty schools) but not in 3 and 4. Specifically, in both of these lower-SES clusters, the restructuring schools surpassed the control schools by a noticeable margin (CPN diff. = 26.1 and 29.2, respectively. In contrast, restructuring vs. control differences were only 1.9 in Cluster 3 and -6.5 in Cluster 4 (highest SES). Importantly, these results suggest that the influences of restructuring were concentrated in the Title I schools, the schools serving the highest numbers of students in poverty and at risk of academic failure.

Figure 1



1995-1997 TVAAS Cumulative Percent of Norm (CPN) Mean Difference Score for Roots and Wings vs. Control Schools vs. Other Schools: All Subjects

*Statistically Significant at P< .01

EVALUATION AS A TOOL FOR SCHOOLWIDE PROGRAM IMPROVEMENT

Title I Reauthorization

Prior to passage of Title I of the Elementary and Secondary Education Act in 1965, state education agencies provided little direct leadership in school improvement efforts. Title I set the stage for a continuing escalation of state involvement in compensatory education by providing funds to states to monitor and enforce Congressional mandates, including provisions for ensuring the quality of compensatory education programs provided by local education agencies (LEAs). However, states devoted most of their attention to ensuring compliance with the law during the first two decades of Title I/Chapter 1, rather than using the results of program evaluation to systematically improve program quality (Office of Educational Research and Improvement, 1987).

The Hawkins-Stafford Elementary and Secondary School Improvement Amendments of 1988 marked a significant departure from previous Title I legislation by establishing a clear focus on improving the educational opportunities of disadvantaged children by "helping such children succeed in the regular program of the local education authority," (Hawkins-Stafford Amendments, 1988, Sec. 1001 [b]). The wording of the legislation also foreshadowed the demise of Title I "pull-out" programs that identified educationally disadvantaged students for inclusion in programs that were not part of the regular school program. Since 1988, schools receiving Title I monies have been allowed to use their funds for Schoolwide Programs, as opposed to identifying and targeting educationally disadvantaged students. Evaluation of the design is important to the concept of Schoolwide Programs, so that both the individual schools and the design developers can make improvements over time, and determine the design's success in impacting student achievement.

An Evaluation Model

In working with different school districts, we have focused on using evaluation as a tool for Schoolwide Program improvement. Key components of our evaluation model are reviewed below.

Formative vs. summative orientations. To the general public, the news media, and many educators, the primary role of evaluation is to test the effectiveness of programs. While this type of summative evaluation, focusing on program outcomes, is crucial for decision making and accountability purposes and should be a contingency of program funding, it may have disadvantages if it is the sole emphasis of evaluation. One limitation is the difficulty and expense of conducting valid studies that compare program schools to comparable control schools. Another is inability of restricted

achievement or other types of measures to assess complex Schoolwide Program outcomes. A third is the time generally required for school restructuring programs to be well implemented and impact student performance.

In our model, we work with schools to establish formative evaluation practices, which focus on the implementation of the Schoolwide Program and its early impacts on key participants and stakeholders. Among the key outcomes considered are implementation progress, school climate, teacher buy-in, principal reactions, and costs. Consequently, schools have immediate accountability and benchmarks for quality implementation of the Schoolwide Program and a basis for determining degree of success and making improvements where needed.

Evaluating implementation/process. Whether external or local Schoolwide Programs are employed, it is essential for schools to be able to monitor the implementation process. Otherwise, an informed and objective basis for determining the sufficiency of progress made in different areas may be lacking. Certain external designs, such as Accelerated Schools, Modern Red Schoolhouse, and ATLAS, place strong emphasis in beginning years on teacher planning and development of a school vision, and thus are intentionally slower in implementation rate than curriculum-based designs such as Roots and Wings. And locally developed designs will have unique expectations, which may or may not be well put into practice with regard to implementation processes and products.

Multiple assessment tools can provide a broader and more valid picture of the Schoolwide Program implementation. Among the measures we recommend for consideration are:

- Benchmark attainment
- Teacher/principal reactions (buy-in, preparedness, perceptions of progress, etc.)
- Design team (or other external) evaluations (implementation success, rate, needs, etc.)
- Classroom observations
- Student reactions
- Parent reactions
- School climate inventory

In our work with school districts, classroom observations have proven extremely valuable in providing accountability as well as evaluation data regarding the use of varied teaching strategies. That is, what teachers and principals say is happening in classrooms as a result of the implementation of the Schoolwide Program may not be consistent with what is actually observed in the classroom. The benchmark tool has also been essential for measuring the progress schools have made in implementing their chosen designs. Benchmarking, of course, must be design specific. Finally, school climate data have served as both a process and product variable. In the beginning stages of Schoolwide Program implementation, schools use the climate information to reflect on conditions, identify strengths and weaknesses at the school, and set goals. A culminating goal, however, is to increase and achieve positive school climate ratings over time.

Educational outcomes. Although process information is useful in monitoring and increasing the effectiveness of the Schoolwide Program implementation, the success of the Schoolwide Program will ultimately be judged on the basis of educational outcomes. Under this category, we have included such variables as student attendance, retention rate, teacher attendance, teacher mobility, and student achievement.

Clearly, the most important of these variables for summative evaluation of the Schoolwide Program is student achievement. The validity of such assessments depend on selecting appropriate achievement measures and bases for judging student performance as a function of the Schoolwide Program as opposed to extraneous factors (e.g., student ability, teacher effects, SES). Group-administered standardized tests such as the Comprehensive Test of Basic Skills (CTBS) or Stanford Achievement Test (SAT) have the advantage of high measurement validity for comparing students to other students (Taylor, 1994), but the possible disadvantage of failing to assess student's meaningful real-world performance related to high-level standards. For this reason, wherever feasible, many educators encourage the use of multiple assessments that include both standardized multiple-choice tests and open-ended performance measures.

In our evaluation model, we propose a four-level hierarchy of evaluation designs starting with Level I, the most rigorous. These are as follows:

Level I: Program-Control School Design, Using Standardized and Performance Measures: In this design, researchers match program schools to comparable control schools. Using stratified sampling procedures, students at all schools would be administered performance measures geared to district (state) standards. Longitudinal analyses of both standardized and performance scores would be made, with appropriate disaggregation of data on variables such as ethnicity, gender, poverty, language proficiency, and years in school. If possible, value-added scores reflecting student year-to-year gain would be analyzed to control for student individual difference variables.

Level II: Program-Control Schools, Using Standardized Measures only: This design replicates Level I, omitting the performance measures due most likely to lack of appropriate tests, or restrictions involving budget, personnel, testing logistics, or time.

Level III: Program Schools Only, Using Standardized and Performance Measures: This design replicates Level I, but does not include matched control schools due to lack of suitable matches or other factors. The absence of a control group obviously limits the degree to which program effects on achievement can be inferred. However, suggestive evidence can be ascertained by examining over time students' (a) average gain relative to national, state, and/or district norms; and (b) mastery of performance standards.

Level IV: Program Schools Only, Using Standardized Measures: This design replicates Level III but without the benefit of having performance measures to indicate progress in achieving standards. Still, the availability of standardized test scores and their comparison to suitable national and/or local norms, would be suggestive regarding the Schoolwide Program school's progress in raising achievement over time.

The feedback/refinement loop. As described above, our evaluation approach emphasizes the value of formative assessments to help schools better understand their progress in implementing Schoolwide Programs and to improve their programs as a result. In many instances, school districts conduct or sponsor evaluations but fail to share the data with schools to facilitate Schoolwide Program improvement. We suggest consideration of the following feedback forms:

- Individual school reports
- Data summary tables
- Individual school feedback discussion sessions
- Group sessions (e.g., design-specific or district-wide)

While individual school reports are the most time-consuming and expensive, they provide a written document that can include both findings and recommendations, and can be easily disseminated to teachers. Two years ago in Memphis, we produced such reports for 34 schools, and they were well received by both the school staffs and district administrators (Ross et al., 1998). Regardless of the type of feedback provided, the important result is that schools use the data to make needed changes. For this reason, we recommend that schools be encouraged by the district and Title I to incorporate evaluation results directly in a "school improvement" or "action" plan for the coming year.

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OVERCOMING THE COGNITIVE WALL: ACCELERATING THE LEARNING OF TITLE I STUDENTS AFTER THE THIRD GRADE

STANLEY POGROW
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PERSONAL BACKGROUND & HOTS BASIS OF THE RECOMMENDATIONS

The ideas in this paper are a result of a journey which began 30 years ago when I tried to teach discovery math and science to students from Harlem. I was young, idealistic, and excited about the opportunity to stretch the minds of the students with the latest concepts and approaches. I and my peers then discovered the hard way that good intentions and ideals were not enough to actually make a high level content approach work for disadvantaged students—even though it was clear to us that the students had the potential and desire to succeed.

I then became a professor and devoted my research to figuring out how to make a high level content approach work with disadvantaged students. The ideas in this paper are a result of my successful large-scale experience in working with Title I students over the past 19 years. In order to learn by doing I developed the HOTS (Higher Order Thinking Skills) program for Title I and Learning Disabled (LD) students in grades 4-8.

Nineteen years ago HOTS pioneered the use of a very sophisticated learning environment with Title I students at a time when Title I was strictly supplemental drill and content reinforcement. HOTS was not only successful in improving thinking skills and self-concept, it produced substantially higher levels of basic skills and content learning. The program's approach was validated when the modifications to Title I in 1988 required the development of advanced skills.

Nineteen years of experience in implementing and studying the use of this program in approximately 3,000 schools with about 500,000 Title I and LD students has given me a very realistic view of the problems and potentials of Title I in the real world, as well as what actually happens at the grassroots level as a result of Federal policy. More importantly, this experience has led to key knowledge about fundamental student learning needs that have a wide variety of important implications for both explaining why Title I has not been overly effective, and for making it far more effective.

EXECUTIVE SUMMARY & RECOMMENDATIONS

The perspective of this paper is driven by a return to the roots of Title I: meeting the educational needs of low-income students (the Child Benefit approach). But what are these learning needs? The key contribution of this paper is that the policy recommendations are derived from new knowledge about the learning needs of disadvantaged students, knowledge generated from my 19 years of accelerating the learning of Title I and LD students after the third grade (see Section #2).

The current emphases on reducing fiscal accounting requirements, providing challenging curriculum to all students, strengthening accountability, and encouraging the use of validated models are all desirable. Practitioners have clearly gotten the message that improvement is being demanded and that they need to demand more of all students and align their curriculum to state standards.

However, there are four major problems with the current legislation: a) It over-relies on the approach of schoolwide reform which has the potential to deny needed services to low income students and continue to rewiden learning gaps, b) It is based on misunderstanding of the fundamental learning needs of Title I students after the third grade, and therefore will do little to help with the single biggest learning problem, the 'Cognitive Wall', c) There are problems in the accountability system, the worst of which involves discounting low-performing disadvantaged students, d) It does nothing to correct key structural problems that have existed since the beginning of Title I which have limited the program's effectiveness. Because of these problems it is essential at this time to combine flexibility and accountability with appropriate levels and types of foci, requirements/standards, and R & D.

The following is a summary of each of the problems with the current legislation and recommendations. (Readers are encouraged to review the bases of the recommendations in the body of the report.)

Problem A. The current legislation over-relies on the unproven approach of schoolwide reform which has the potential to deny needed services and continue to rewiden learning gaps.

There is no evidence at this time that schoolwide programs produce better, or even as good, results as targeting services directly to needy students. The only studies that find benefits for schoolwides are those conducted by the U.S. Department of Education (USDOE). However, there are serious methodological problems with these studies which are largely conducted by advocates (see Section #4).

While schoolwide approaches clearly make sense in schools with very high percentages of low income students, they can easily ignore the needs of low income students in schools with lower percentages and widen learning gaps. Now that schools only need to have 50% low income students to be eligible for a schoolwide approach, we do not know if the low income students in such schools make at least equal or greater gains as the 50% advantaged students, or whether the pooled Title I funds disproportionately benefit advantaged students and widen learning gaps.

There is some evidence that such widening has already started to occur. Evaluations of Title I typically show that students served in the program make some gains, and at the very least keep gaps from being wider than they would otherwise be.[1] In addition, the National Assessment of Educational Progress has found that the learning gap between whites and minorities has been reduced since the early 70's. However, gaps in reading and math have started to rewiden since the 1986-96 period for most age groups.[2]

The rewidening since 1988 has coincided with the switch from the traditional 'Targeted Assistance' approach (i.e., using Title I funds to provide extra help directly to educationally needy students) to a 'Schoolwide Approach' wherein eligible schools pool a variety of Federal funds (including Title I) and spend the lot on *all* students in order to improve the school as a whole. Federal and state officials have increasingly urged eligible schools to switch to the schoolwide improvement approach and Congress has increasingly liberalized eligibility.

Furthermore, while the education professional groups and USDOE are promoting schoolwide reform, other promising alternatives, including some of the traditional approaches which did substantially reduce learning gaps, are not supported or advocated.

Recommendations:

1) Federal and state government should stop aggressively encouraging the use of the current schoolwide approach and specific schoolwide programs. They should remain an option and eligibility criteria should be strengthened.

Federal and state policy should not mandate or push eligible schools to switch from the traditional 'targeted assistance' model to schoolwide until real evidence of the superiority of schoolwides can be established. In addition, given that schoolwides could increase learning gaps in the lower poverty schools, the minimum percent of low-income students for a school to be eligible for schoolwide should be raised up to 60-75% until more evidence of effectiveness is available.

2) Create a new option to combine the benefits of the fiscal flexibility of the schoolwides with the need for targeted assistance to help disadvantaged students. This new middle ground option, 'Flexible Assistance', would allow schools to provide services from a combined pool of Federal funds (eliminating the separate fiscal accounting and targeting) while also requiring them to document programatically what services were provided to disadvantaged students.

The Flexible Assistance model would provide the fiscal flexibility of existing schoolwides, i.e., the specific source of funds do not have to be attached to specific students or specific activities. However, the model would require that most of the combined Federal funds be spent to meet the identified special needs of low-income students as with the traditional model. This 'Flexible Assistance' model provides schools with the benefits of fiscal flexibility while also increasing the chance that needy low-income students will receive the key services they need. Such students would have to be identified, their fundamental learning needs identified, and a certain minimum amount of help provided, particularly in grades 4-8. This model combines fiscal simplicity with targeted programmatic delivery.

Problem B. Continued misunderstanding of the fundamental learning needs of Title I students after the third grade causes schools to provide the wrong kinds of services that may even inhibit learning and students' ability to benefit from exposure to quality content. This is the primary reason why Title I, and reform in general, has failed to reduce learning gaps after the third grade—regardless of how much help is provided K-3, or how much progress students make

early on. After the third grade many/most Title I students run into the 'Cognitive Wall' . Overcoming this wall requires more intensive and specialized help than is typically provided in reform efforts. Relying on flexibility and accountability by themselves, in the absence of better knowledge of real learning needs and changes in practice in grades 4-8, will be of little benefit to these students.

Much as a long distance runner hits a wall, a point beyond which it is difficult for the body and mind to continue to drive forward, most Title I students hit a cognitive wall as they proceed through school and the curriculum continues to become more complex. My large scale experience and research with Title I students via the use of the Higher Order Thinking Skills (HOTS) program is that most hit the cognitive wall, i.e., come to a point wherein they have extreme difficulty understanding the more complicated learning processes demanded, after the third grade (see Section #1). This cognitive wall limits the benefit that disadvantaged students reap from high standards and quality instruction after the third grade and can widen learning gaps.

The system of learning needs among Title I students is more complicated and detailed than previously realized. Accelerating the intellectual development of students *after the third grade* and thereby avoiding the cognitive wall requires a deeper understanding of the learning needs of disadvantaged students and better strategies for matching interventions to these fundamental learning needs.

Section #2 describes how: a) the learning needs after the third grade are very different than before and require a different approach, b) there are three very distinct types of needs which require very different approaches, c) that the LD population has the same three learning needs, d) that meeting the largest of the learning needs requires a carefully sequenced set of activities part of the day for a 3-4 year period after the third grade, and e) the existing definition of need in the regulations is so primitive that the vast majority of highly motivated students suffering from the largest category of need in high poverty schools either receive no service or, even worse, receive the wrong service.

Section #3 describes how misunderstanding of the learning needs of disadvantaged students after the third grade causes most to receive the wrong service. It also describes how such mismatching explains much of the disappointing results we have seen in Title I and school reform in general after the third grade, and why so many disadvantaged students who have the potential and desire to succeed in high level content do not. Indeed, it appears that the mismatch between needs and services does more to explain the limited benefits of Title I and school reform after the third grade than the 'soft' explanations typically offered, e.g., student hormones, peer pressure, etc.

Recommendations:

3) A minimum percentage of Title I funds should be spent after the third grade. We continue to overinvest in K-3 in the hope that we can solve the later problems *solely* though such efforts. This has not worked, and the learning needs model in Section #2 predicts that it cannot work.

4) Planning processes need to be better tied to student learning needs.

Schools need to use different planning approaches for grades K-3 vs. 4-8, with provisions for diagnosing and serving the different specific learning needs in grades 4-8. In addition, given the need for a 3-4 year sequence of activities after grade 3 to fully develop the intellectual capabilities of the largest category of need, and given current levels of student mobility, the problem cannot be solved on a school by school basis. Plans need to be developed around clusters of schools that reflect mobility patterns within and across levels of schools on a grade 4-8 basis to maintain continuity of services. (An exception would be K-8 schools that have low mobility levels.)

5) Change the criteria for how to provide services in order to use available funds more efficiently and provide a wider mix of better targeted services.

Schools should be given more flexibility in defining need and selecting the low income students to be served after the third grade. Schools are currently required to serve the lowest scoring students first. However, the highest potential most needy low income students are not necessarily the lowest scoring. Meeting these student's needs should be at least as high a high priority as those of the lowest scoring students. Specific types of identified learning need and potential should be included with test scores in defining who is the most in need of services.

6) Create professional standards for the types and amounts of services that disadvantaged students should receive driven by research on learning needs and the effects of high quality interventions.

Professions faced with a complex body of knowledge about needs and approaches, such as the medical profession, not only disseminate information but also establish recommended standards of service.

Creating local standards in medicine is called 'malpractice'. An effort should be made to set minimum professional standards for how to service different learning needs. There appears to be enough research to set some minimum standards for helping needy students, and these would be helpful even if they were voluntary.

Some possible examples of professional standards could be:

- Have all kindergarten programs teach reading (probably phonemic awareness) during part of the day as a condition for receiving Title I funds. This might do more to reduce early reading problems than the actual Title I funds themselves.
- Discourage the use of aides to provide all Title I services. While there are many outstanding aides in Title I who can deliver a wide range of services, some of the needs require the highest quality teachers. Indeed, in my work we have even successfully recruited teachers from Gifted programs to provide the more advanced services that Title I students need.
- Encourage schools to provide the three types of needed help in grades 4-8, preferably starting in grades 4-5.

7) Since Title I and the second largest K-12 program, Learning Disabled (LD), serve the same three set of learning needs and types of students, Title I and LD should be combined in new ways. Some helpful approaches would be to put both on the same reauthorization schedule, and, if the goal is really to help students, begin to think about recombining the funds from these two programs into providing three different types of assistance.

8) As long as there are inadequate funds to serve all needy students, guidelines should limit the amount of time that students receive special services for grades K-3 and 4-8.[3] Under current conditions only about half of eligible students are served. However, those who are served are served, and served, and served, often remaining in the program for as long as the schools provide service. Under the current setup there is little incentive for schools to move students out of the program or to even make their program substantially more effective. In addition, it appears that effective programs produce substantial gains in a relatively short time. For example, research shows that gains tend to be produced in 1-2 years, and there is little additional benefit from more service.[4]

A limit on the amount of time students could receive designated Title I services would substantially stretch available resources to serve more students and would provide greater incentive for schools to increase the quality of their programs.

Problem C. There are major problems with the accountability system, the worst of which is that it is likely that many Title I students will be not be counted or will be overlooked.

The current approach shifted the historic focus of Title I accountability from measuring *student gains* on national standardized tests to *overall school performance at a single grade* level on new state tests tied to state standards. However, by shifting accountability from student progress to individual school performance at a single grade level, the current system provides almost no information on how to help individual students. In addition, Section #4 describes how many needy students can get lost in the cracks.

Another problem is that the testing requirements are set up so that students need only be tested at a single grade level in each school, However, student development is not an individual school single point in time issue. Students move between schools at each level and transition between elementary and middle schools. Who is responsible to help them during transitions in-between testing periods? There is also a need for an earlier warning system as students do not have to be tested until the fifth grade.

Recommendations

9) Monitor the performance of all eligible student over time and make their progress a key determinant of accountability. State-of-the-art information management networks should be used to make sure that students are not excluded or lost due to mobility.

Accountability and productivity gains have been achieved in industry with information systems that trace and coordinate the progress of individual factors from a variety of sources to more precisely meet the specific needs of each client. Real time tracing of student progress is now also technologically feasible via computerized networks that provide virtually instantaneous communication and data analysis.

a) Each state should set up a network to trace the progress of all Title I/disadvantaged students as they move from school to school over time. Cost effective technology now exists for setting up such networks that were not previously available. Such networks would be of even greater value if they interfaced directly with the computers of test service companies to speed the return of test results.

b) There needs to be more testing points (at least every two-three years) in order to measure student progress.

c) There should be clear and demanding standards for the performance and progress of low income students (particularly in schoolwide model schools) and accountability to make sure that all such students are tested.

10) States should mandate one or two grade levels where students annually take nationally normed tests. This will provide a reality check as to whether state tests are helping students compete nationally and avoid the type of discrimination where a student in one state can be rated highly with substantially lower achievement than in another state. Alternatively, states can use the data from the National Assessment of Educational Progress which is given every few years.

According to Education Week (October 21, 1998), Kentucky is going to include national norm-referenced tests that indicate how their students perform as compared to national averages at grades 3, 6, and 9 in addition to state tests in grades 4,5,7, and 8 in its accountability system.[5]

In addition, research should be conducted on correlating the results from the early state tests with the comprehension sections of standardized tests. (If there are high levels of agreement there is little need for additional state tests. A lack of agreement may indicate that a given state's test/standards are too lax.)[6]

11) There should be fiscal consequences for continued failure and success. Prior history suggests that simply putting schools on notice to improve is not sufficient in many cases. There should be some fiscal penalty for failure over an extended period of time to show student gains and some supplemental reward for producing substantial gains. (Presently the latter stands to lose their Title I funds as a result of their success.)

Problem D. The legislation does nothing to correct key structural problems that have existed since the beginning of Title I. These include: a) the absence of adequate interventions, b) the problems caused by high rates of student mobility, and c) poor teacher quality.

We do not have sufficient research-validated programs, particularly effective programs that generate gains after the third grade. Those who testify that we know what works are generally promoting self-serving agendas. Efforts to promote the use of validated programs, such as Obey Porter, have been largely influenced by politics and resulted in a concentration of resources in a few programs, threatened the existence of other effective programs, and dramatically raised the costs of interventions. In addition, there is no real evidence supporting the 17 schoolwide programs promoted by the Obey Porter bill. Independent analyses find that even the widely publicized Success for All program fails to produce gains after the third grade. Unfortunately, there is no Federal funding for program development. What other human endeavor would spend $8 billion without investing any funding to develop better techniques/interventions?

Nor does the current legislation do anything to help with the high rates of mobility among disadvantaged students, and the quality of teachers, particularly in high poverty schools and in schools where all Title I services are delivered by aides. These factors have always limited the performance of Title I.

Recommendations:

12) Increase the Number of Exemplary Programs Available for Adoption by funding new program development and dissemination efforts.

Provide limited Federal support for non-profit organizations to develop new interventions for grades 4-8 and to maintain reform networks and/or dissemination efforts. Federal dissemination grants do not have to be very large to have major impact.

13) Fund relevant unbiased policy analysis on: a) the relative effectiveness of different approaches to Title I, and b) how public policy affects student mobility.

USDOE should stop contracting policy studies to research groups that are advocates for the positions that the Department has espoused. Title I requires an open exchange of ideas and perspectives.

Research should be conducted on the role of public policy in increasing student mobility. Possible areas to examine are: Welfare and public housing policy.

The bottom line is that challenging content, high standards, fiscal flexibility, and accountability based on student learning outcomes are essential, and a substantially larger number of low income students can be academically successful with the right type of help. However, the existence of the cognitive wall means that these reforms are not sufficient and will not, by themselves, improve the performance of Title I students.

In order to produce additional significant gains in the performance of low-income students after the third grade, Title I and school reform in general has to provide a more sophisticated, sustained, and focused mix of quality instructional services better matched to fundamental student learning needs. We need to stop relying solely on getting kids off to a good start and other simplistic strategies. This is not likely to happen under the current legislation or proposed changes to Title I.

Unfortunately, the current law switched the focus from students to schools. In addition, most reauthorization proposals focus on shifting control and on operationalizing adult political and philosophical ideologies that have little to do with the real student learning needs that exist. The issue is not schoolwide versus targeted assistance, or Federal regulation versus local autonomy. Student needs can be met or unmet under any of these proposals. Research and legislation needs to better identify and focus on meeting the key learning needs, particularly after the third grade.

The remainder of this paper focuses on the research and history underlying the recommendations. Sections #1 describes the cognitive wall. Section #2 describes the widely varied categories of learning need and type of student found within both the Title I and LD population. Section #3 brings these ideas together to present a new theory to explain why Title I and school reform in general fails to raise the performance of disadvantaged students after the third grade. Section #4 describes the limitation of the current approach in more detail.

Section 1: Manifestations of the Cognitive Wall

The biggest gains and the biggest reduction in gaps in Title I occur at the very early elementary grade levels. These gains decline, and gaps increase, thereafter and by the time students enter junior high the gains have dissipated. For example, a 1997 study by the U.S Department of Education (USDOE) shows that student mastery on basic skill objectives declines dramatically after the third grade.[7]

Table 1

Percent of Students in High Poverty Schools Achieving Mastery of Basic Skills[8]

Subject	Grade 3	Grade 6
Reading	18.8	5.4
Math	31.5	19.6

Table 1 illustrates that the major problem with Title I and school reform in general is that they generally produce early gains that are not sustained later on. Rudy Crew, Chancellor of the New York City Public Schools, recently called grades 6-8 a "wasteland" as performance nose dives in the sixth grade.[9] Few educational practices have been proven effective for educationally disadvantaged students after the third grade. Simply put, grades 4-8 are the black hole of American education which seems to suck up whatever progress has been made earlier and where things seem to fall apart.

A variety of approaches have been used to try to reverse such decline. Examples include: a) spending even more K-3, b) trying a variety of school scheduling and reorganization procedures, and c) developing excuses and scapegoats. Unfortunately, K-3 approaches are very expensive and the results are seldom sustained no matter how much is spent. We have switched from Junior High Schools to Middle Schools, have used longer periods, and Rudy Crew now suggests extending elementary schools to grade 8. The 1996 interim report on the National Assessment of Title I from the USDOE which largely blames the disappointing results on the use of special help programs outside of the regular classroom (pullouts) and low level content in the classrooms. The problem with blaming pullouts is that some of the most creative and effective interventions [including my own I should add], are pullouts. Blaming pullouts also does not make sense as their use declined dramatically since 1988 gaps rewidened, as did all efforts to provide supplementary services directly to needy students.[10] There are also problems with all the other explanations for the performance decline after the third grade such as peer pressure, raging hormones, etc.

I believe that the dropoff after the third grade is largely the result of a very different process—the 'cognitive wall'. The 'cognitive wall' refers to a point at which the thinking demands of learning an increasingly complex curriculum overwhelms the ability (at that point in time) of most Title I students to process and apply the ideas. This occurs for most

Title I students around the fourth grade. At that point almost all reform efforts, no matter how well intentioned, have limited benefits for disadvantaged students.

The cognitive wall is not a result of students' innate ability. Rather it is due to fundamental unmet learning needs. Therefore, eliminating the cognitive wall requires a better understanding of what students' real learning needs are.

SECTION 2: UNDERSTANDING THE LEARNING NEEDS OF TITLE I STUDENTS [11]

Few would disagree that Title I should focus on students' learning needs. However, this approach can ignore individual and special needs. The Title I legislation has traditionally defined need in a very crude way. It specifies that services first have to be provided to the students who score the lowest on a test. These students then get served, served, served, and served some more until the money runs out. This assumes that there is a single need, and that some students have more or less of that need as determined by their test performance. The following is a more detailed picture of student learning needs based on my experience.

Learning needs/potentials

Most disadvantaged students have normal to high levels of intellectual ability. With appropriate help the vast majority of Title I students have the ability to perform academically at high levels.

There is no single uniform learning need among Title I students. The key learning problems of disadvantaged students are very different in grades K-3 as compared to grades 4-8, and require totally different approaches. The biggest learning problem in K-3 is that they are missing many fundamental pieces of basic content, (i.e., students do not know letters, numbers, etc.) and do not know how to interact socially in school.

The biggest learning problem after the third grade, however, is that students do not understand how to deal with ideas, generalizations, or abstractions. This becomes a problem in grades 4-8 because the curriculum becomes more complex and requires more advanced forms of thinking. Teachers sometimes refer to such students (incorrectly) as concrete thinkers.[12]

Among Title I students in grades 4-8 there appear to be the following three very distinct fundamental student learning needs. 1) Students who do not understand how to understand complex ideas. This group comprises approximately 80-85% of Title I students in grades 4-8. 2) Students who have physiologically based needs (e.g., dyslexic, severely hyperactive) that are inhibiting learning. This category comprises about 10% of the Title I population. 3) Students who are truly below average in mental ability and who should really be in another program—but do not qualify for one reason or another—constitute approximately 10% of the Title I population.

Until a sense of understanding is developed, the cognitive wall prevents disadvantaged students in grades 4-8 from succeeding in high level content—even though they have the potential to succeed.[13]

Thinking is like language. Placing students who do not have a sense of understanding into a problem solving approach to science or social studies is the equivalent of teaching those courses in Russian. Developing a general sense of understanding is the catalyst that enables disadvantaged students to learn everything else at a more sophisticated level.

Historically, whenever education has implemented a high level content approach to learning for *all* students, disadvantaged students are moved directly into thinking and problem solving course content without first developing a sense of understanding. Under these reforms disadvantaged students are given opportunities that they are not ready to take advantage of—but could succeed in with the right preparation. The failure to first develop a sense of understanding and thereby eliminate the cognitive wall explains why many of the well intentioned reforms of the past which tried to help disadvantaged students did not work. Students who do not have a sense of understanding have trouble applying specific content knowledge. They regurgitate it in the form in which it was taught. This does not help them if the items on the test are in a different form or require problem solving skills.

We believe that reducing the cognitive wall in most disadvantaged students in grades 4-8 by developing a sense of understanding takes almost 2 years of specially designed conversation activities in a small group setting for 35-40 minutes a day.

A sense of understanding is developed through extensive and intensive conversations about ideas with adults. This conversation traditionally took place around the dinner table. The type of conversation that is needed to develop a sense of understanding, either in the home or in school, is where the child is pushed to explain things and justify his or her decisions. However, the amount of home conversation varies dramatically by economic status.

A recent study of home discussion patterns among attentive parents found that working class parents made half as many statements to their young children per hour as professional level parents, and welfare parents made half as many statements to their young children as working class parents did. The children exposed to higher levels of parental conversation did better on a measure of developmental IQ at age 3, and these differences remained at age 9.[14]

In classrooms with a large number of educationally disadvantaged students it is virtually impossible to provide the extensive interaction opportunities needed to develop the sense of understanding in the context of a full sized classroom—as impossible as it is to have in depth conversations with 30 guests at a party.

At the same time not just any type of conversation will produce fundamental shifts in how the mind works. To be effective such conversation needs an excellent teacher, a small group, a curriculum designed from the ground up to promote specific questioning forms of discussion that consistently require students to make and justify predictions and generalize ideas from one situation to another. The HOTS program combined the use of computers and a special curriculum and questioning system to get teachers to switch from remedial work and teaching by telling, to teaching by asking students higher level questions about their discoveries on the computer and relating their ideas from one context to another. Another program, Junior Great Books, organizes conversation around the use of literature.

Developing a sense of understanding after the third grade generates substantial improvement both in standardized tests scores and on a wide variety of alternative measures of learning development.

My large scale research clearly shows that investing the right amount of time in grades 4-8 with a high quality program to develop a sense of understanding produces far greater gains on standardized tests, especially in reading comprehension, than supplemental remedial help. (This is true even for students who enter the fourth grade with low levels of basic skills.)

Those such as Robert Slavin who believe that: "...failure in the early grades does virtually guarantee failure in later schooling"[15] appear to be wrong. Student performance after the third grade largely appears to increase or decrease as a function of the type of supplemental help that is provided and whether it eliminates the cognitive wall.

Once a sense of understanding is developed, most forms of academic learning, from basic to advanced skills, are accelerated. Research with the HOTS program found that developing a sense of understanding in Native American Title I students simultaneously produced substantial gains in: a) reading comprehension, b) metacognition (systematic use of strategies), c) writing, d) components of IQ, e) transfer to novel problem-solving tasks, and f) grade point average.[16] Comparison students made no gains in the fourth grade and declined in the fifth grade. Several years later students who had developed a sense of understanding were doing much better academically, socially, and in school participation than the comparison students. This graphically demonstrates how significant developing a sense of understanding is to successful school reform.

Once disadvantaged students have developed a sense of understanding, they can be successful in high level content with the right support.

Policy implications of the learning needs model

A policy switch is needed between grades K-3 and 4-8 since the primary inhibitor of learning is so very different. The same approach is not likely to work at both grade spans regardless of whether it is a traditional or progressive approach.

At least three different approaches are needed after the third grade. The three learning needs are so different that a single approach or service (be it traditional or progressive) cannot meet all these needs. Services need to be more precisely targeted to particular needs.

TABLE 2

HOW TO MEET FUNDAMENTAL LEARNING NEEDS

Grade Level	Primary Learning Need	Basic Intervention
K-3	Content knowledge	Teach reading in kindergarten Tutoring help Reduced class size in grade 1
4-8	Develop a sense of understanding True low mental ability students Physiological issues	Small group Socratic structured conversation Tutoring help to automate skills Get appropriate specialized help

It is essential that schools provide the focused and finite services required to develop a sense of understanding in all low-income students who can benefit from it as early in the 4-8 grade span as possible.[17] Such service should be provided by very high quality teachers.[18]

Helping students after the third grade by just teaching to the test or reinforcing content will not work very well for most disadvantaged students. *(Unfortunately, most states are giving the test at grade 4. This promotes an all consuming process of teaching to a test at that point in time when students need some intensive specialized help to develop a sense of understanding.)*

This learning needs model, as sketchy as it is, provides a basis for designing more effective solutions to Title I and substantively understanding some of the historic problems. Hopefully, in time, other researchers will further elaborate the students' specific learning needs and how to best meet them.[19]

SECTION 3: WHY REFORM FAILS TO HELP THE DISADVANTAGED AFTER THIRD GRADE: THE WRONG STUFF AT THE WRONG TIME

There are many reasons why any school reform fails. However, failure to properly match services to needs of services appears to be a largely overlooked major factor. Since remedial and content reinforcement approaches are successful in grades K-3, schools continue to use them as the primary approach in grades 4-8. However, of the three categories of learning needs in grades 4-8, the only one which a remedial/content reinforcement approach consistently helps is the truly low mental ability students—which is only approximately 10% of the Title I population. *At the same time a remedial approach inhibits the learning of students who need to develop a sense of understanding* because it teaches them to view content as discrete pieces of information at the point in time where they need to learn how to tie ideas together. This is 80-85% of the Title I population.

As a result, the predominant approach used by schools in grades 4-8 helps 10% of the students while inhibiting the learning of 80-85%. Overall results must inevitably decline.

When low income students are not receiving the wrong service in grades 4-8, the chances are that high potential motivated low income students in high poverty schools are receiving no services. Under the current limited definition of need (based on the lowest test scores), most high poverty schools do not have adequate funds to serve most of the low-income students who need and can develop a sense of understanding—since they often do not have the lowest test scores. In a schoolwide model none of the students may get the specific help that they need.

The students most discriminated against in America are high potential motivated students in high poverty schools who lack a sense of understanding in grades 4-8. There is a high probability that either they will not receive any service or the wrong service.

Inadequate performance of Title I students is not a necessary consequence of some overriding social circumstance or the type of test used. Nor are good intentions enough if students have not been adequately prepared to take advantage of this opportunity.

SECTION 4: PROBLEMS WITH THE CURRENT TITLE I LEGISLATION

There are many noble ideals in the current approach. Increasing the quality of content provided to disadvantaged students and increasing accountability are highly desirable. However, this is

not sufficient. The prior section showed how providing the wrong types of compensatory services can actually inhibit learning and even widen learning gaps. In addition, there are problems in the current law and administrative procedures that make success highly unlikely and even ignore the students Title I is designed to help.

Promoting non validated 'schoolwide' approaches and discouraging others

In 1988 schools were allowed to use the schoolwide approach if at least 75% of the students were low-income. In 1994 the schoolwide option was extended to schools with as few as 50% low income students. Allowing Federal funds to be used to help all students is based on the belief that improving the overall school is the best way to help low income students—an assumption which is yet unproven.

Suppose that as improvements are made to the overall school advantaged students make better use of the opportunities than low-income students. Under such conditions the learning gap will widen, and Title I funds will be directly responsible for such widening, though both groups might improve. Without a system for keeping track of the performance of low income students in a school, the continued liberalization of schoolwides creates the potential for Title I funds to once again be used to benefit others than those for whom it was intended.

While Federal and state officials have been strongly urging eligible schools to switch to the schoolwide approach since 1988, there is very limited evidence as of yet that schoolwides produce improved results.[20] A recent analysis in *Educational Evaluation and Policy Analysis* of all the evaluations to date concludes that as of this point in time schoolwides do not offer an advantage.[21] The results from the evaluation of schoolwides in Philadelphia Public Schools is typical. The supposed success of Philadelphia schoolwide models was widely promoted in Washington as a rationale to extend schoolwides. The actual results did not show that schoolwides had made a difference.[22]

The most widely researched schoolwide program is Success for All. However, the major demonstration and research site for Success for All was in the Baltimore Public Schools. Claims that Success for All (SFA) students were doing better than students in control schools led Slavin and the other Johns Hopkins researchers to label the program a success.

Recent independent published analyses of SFA paint a very different picture.[23] One reanalysis of the Baltimore data concluded that with summer loss factored in, the SFA students would start the sixth grade reading at approximately the 3 rd grade level. The developer, Robert Slavin, defends these terrible results on the basis that SFA students did better than students in the comparison schools.[24] This is no defense under any conditions, but especially so given that SFA schools were given more money and assistance.[25] In addition, one of the studies notes that in the evaluation done by Johns Hopkins researchers, large numbers of students in the SFA schools were not included in the comparisons with control students.[26] The two independent published evaluations concluded that the gains from the schoolwide SFA occurred just in kindergarten and first grade.

The Coalition of Essential Schools is by far the most lavishly funded schoolwide programmatic change effort ever put together. After more than 15 years there is no hard data supporting its effectiveness. Nor are there adequate data supporting the effectiveness of other national schoolwide programs such as Accelerated Schools or Comer's School Development Program, which are essentially social process approaches to school change.[27] While the New American Schools like to point out that they are research based and cite the work of the RAND corporation, to date no effectiveness data have been published.[28]

USDOE funded studies paint a different picture and conclude that schoolwides are better. For example, a recent USDOE report concluded that high-performing high-poverty schools are characterized by: "greater use of the schoolwide Chapter 1 program."[29] Unfortunately, the reality is that there were only *five* schools in the national sample that qualified as high-poverty high-performing (a sad fact in and of itself). Of these, three were using schoolwide approaches and two were not. Is this 'greater use'? It appears that USDOE funded research is geared to supporting current department initiatives.

Another USDOE study released in 1997 concluded that: "Students in schools working with whole-school reform tended to achieve greater gains than did students in schools attempting various pull-out programs."[30] However, the design grossly favored schoolwide models and the Johns Hopkins researchers who designed the study were well known advocates of the schoolwide approach.

At this point, the studies of schoolwides do not demonstrate better results than those that have been produced historically in Title I through simple improvement mechanisms such as tutoring and

curriculum alignment. Despite this lack of demonstrated effectiveness during the 80's and 90's, almost all of foundation and private sector funding went to schoolwide and district restructuring experiments and development—some of which were very lavishly funded—in some cases with substantially larger amounts of monies per school than are available from Title I. Yet, there is little success from these efforts.

Schoolwide interventions are also extremely expensive[31] and inefficient in terms of human resources. For example, it takes Comer's School Development Project 5-7 years to be institutionalized.[32] How many schools can stay the course for such a long period of time? What happens to the students in the meantime?[33]

Besides promoting the general schoolwide concept, Federal and state officials are now pushing specific models. The Obey-Porter Comprehensive School Reform Demonstration (CSRD) legislation provides $150 million for schools to pilot research based schoolwide interventions for the upcoming Title I reauthorization. This legislation lists 17 programs that are supposedly 'research based'. Many states used this list to identify approved programs. New Jersey's Commissioner of Education went further and recommended that schools use the funds generated by the state's recent school finance settlement to adopt the *Success for All* program.[34] However, as I point out elsewhere in this paper, there are virtually no data to support the use of the specific programs listed in the Obey Porter legislation or the one recommended by the NJ Commissioner, although such listing gave them a major competitive advantage.

Nor is it clear that giving practitioners more flexibility produces program improvements that better meet the needs of students.[35]

While it is a good idea for Federal legislation to provide funds for schools to experiment with more expensive alternatives, no funds are being provided for approaches other than schoolwides. For example, why not let schools experiment with using extra funds to recruit higher quality teachers and obtain new texts, or to combine a variety of targeted assistance programs, etc. Unfortunately, Congress is being sold a bill of goods that there is in fact supporting research.

Accountability problems

Title I students were traditionally evaluated using nationally normed standardized tests. Because nationally normed tests did not match up with emerging state standards, the 1994 law switched to new state testing systems that were to be developed. The goal was to pressure schools to improve the overall instructional process so that all students met state standards, and to place those schools that did not meet state standards on notice. However, there are wide disparities in the quality of the standards between the states. Therefore, there will be large differences in the quality of the new tests and the standards for proficiency performance. This means that students with the same ability and knowledge will attain very different ratings in different states.

In addition, the current law created a period of limbo as the tests do not have to be developed and administered until 2000-2001 and perhaps a year later, which is after the next reauthorization. While waiting for the new tests to be developed, states are not required to use transitional assessments and do not have to analyze (disaggregate) the results to determine how low-income students are doing.

There are other assessment problems:

- Results are reported for the school as a whole and the requirements to provide data on subgroups within the school, such as the low income students, are vague. The law requires that data have to be analyzed in terms of how low-income students are doing only when the tests are statistically sound. Until that stage is reached we will not know how low income students in a school are doing.
- The law does not require schools to include students who have not been at that school the entire year for accountability purposes. Given the high levels of student mobility among Title I students in high poverty schools, perhaps 20 to 40% of the Title I students will be eliminated from a school's results. This means that the results will give an artificially high estimate of the school performance and the achievement of its disadvantaged students.
- There are enormous incentives for schools to discourage the lowest students to take the tests. In addition, schools and districts do not have to report the same data for all their Title I students, or even report an overall score in each content area.
- Tests are too infrequent and there is no provision for monitoring individual student progress. There is generally only one testing point at the elementary grades.[36] Students can then go for as long as six years before being retested. In addition, tests do not have to start until the fifth grade so there is no early warning system. Some states voluntarily go beyond these inadequate

minimum testing requirements. For example, Texas tests all students in reading and math in all grades from 3-8, and provides the scores in such a way so that schools can tell whether students are making progress or falling behind. However, previous history suggests that most states go along with the minimum accountability provisions.

- Student development is not a single school single point in time process. A state could test at the third grade and then again at the ninth. Who has the responsibility to provide the critical help needed in the meantime? In addition, this type of system is inconsistent with high student mobility and the need to maintain consistent forms of support as students transition from elementary to middle schools. [37]

Preoccupation with school performance at a single point in time may be to the detriment of student growth. There is no real provision for using test data to help individual students. By the time results come back it is really too late to help and it is very difficult to tell which students are or are not making progress over time.

As we have less information on individual students or types of students real accountability becomes more difficult. To make matters even more problematic, some accountability provisions for schools using schoolwide models were loosened in 1994.[38]

The 1996 Title I Interim Report from USDOE justified the easing of accountability requirements by noting problems with the "tough" accountability provisions in the 1988 amendments. (These accountability requirements merely required that students would maintain their national placement—as opposed to actually making gains.) Of the 11,000 schools identified for program improvement in 1994-95, over half had been in program improvement for at least two years, almost 1,000 for at least four years, and over 100 had been in that status since the 1988 amendments went into effect.[39] First, to put this in perspective, approximately 50,000 schools receive Title I funds. Second, this means that there is a failure of will and expertise at the local and state levels, and insufficient penalties for ongoing failure. This is an infrastructure problem that remains in place and a reflection of what happens in the absence of fiscal incentives or penalties.

Overlooked problems in the legislation

- Inadequate interventions—There are few validated, consistently effective programs available. There is a need for more powerful and systematic interventions to produce the desired results. While Title I spends almost $8 billion to help students, there is no funding to develop and disseminate better approaches. We need to develop a whole new generation of more powerful interventions—particularly after the third grade.[40]

  The only development initiative recently was the high profile New American Schools project initiated in the Bush administration. This approach encouraged the private sector to put up the funds to create a few new school models. What isn't available are relatively modest grants for individuals to develop new approaches. Development funds have largely dried up as have program dissemination funds. I was lucky to get funding at a time when I was unknown. That would not happen today. We need sustained multi-year modest levels of funding for a wide variety of development projects, including some by unknowns. I never would have been able to develop the Higher Order Thinking Skills (HOTS) project with some government support.

  Those who argue that validated models currently exist are generally doing this for self-serving purposes.

- Teacher quality—While there are many wonderful dedicated teachers and aides working in high poverty schools, all too often Title I services have been provided by the weakest teachers in a school or strictly by aides. In addition, high poverty schools find it difficult to attract and retain high quality experienced teachers. Yet, developing a sense of understanding requires high ability teachers.

CONCLUSION

For the past 34 years the limited success of Title I has represented both the best and worst traditions of the Federal policy process. It represents an effort to help schools and society achieve a noble ideal. On the other hand it is trying to achieve that goal without a strong base of expertise to direct the process, and with few validated models of success. This is still true today.

Many are trying to convince Congress (once again) that we know what works and that there are lots of successful interventions which should be supported. This is not true after the third grade. Most Title I and LD students hit a cognitive wall after the third grade which still limits ongoing student progress, especially in mastering high level content. Large gaps remain and earlier progress is either stalled or perhaps reversing. Infrastructure problems

remain that have never been solved. Compensatory services have been based on an incomplete picture of students' key learning needs. As a result, the real benefits of Title I have been limited, and services may have unintentionally impeded learning for many disadvantaged students.

It is time to stop making excuses for poor performance or using inadequate performance to promote bandwagons such as schoolwides. We need to stop spending ever more on K-3 without developing better knowledge and programs for grades 4-8, and we need to stop pretending that simply shifting power from Washington or providing flexibility will, by themselves, solve the problem.

The cognitive wall is the key determinent of whether the current high quality content and standards approach for all will reduce or increase learning gaps. Overcoming the cognitive wall requires a more sophisticated focus on fundamental learning needs and a more precise targeting of higher quality instructional services than is provided under existing or proposed approaches. This paper has provided new insights into the nature of these learning needs and some general strategies for better meeting them. A key is to develop a sense of understanding in the majority of students after the third grade. More interventions are needed that can efficiently develop a sense of understanding.

For now, Congress should encourage development and implementation of a wider variety of approaches and programs without pushing particular ones. Even as we implement some basic effective strategies we need to invest in more powerful and appropriate ones.[41] In addition, specific legislative improvements are needed in the current approach to keep low income students from falling through the cracks, along with some basic educational guidelines to ensure that fiscal flexibility does not limit the services provided to Title I students. We need to strike a proper balance between flexibility and focus.

Low performance by the majority of low income students is not inevitable. It is time to get serious about putting the needs of students ahead of the convenience and ideological preferences of adults. The issue is not whether you use schoolwides, pullouts, targeted assistance, vouchers, or other approaches. It is whether you deliver the right type of service for the right type of learning need, at the right time, for a sufficient amount of time, with sufficient quality. The vast majority of disadvantaged students can be highly successful in school. A substantially improved Title I program can help them achieve that success.

NOTES

[1] Borman, G.D. & D'Agostino, J. V. (1996). Title I and Student Achievement: A Meta-Analysis of Federal Evaluation Results. *Educational Evaluation and Policy Analysis*. 18(4), 309-326. Examples of other national studies that generally found gains include: Jacobson, H. (1997). State Chapter 1 Participation and Achievement Information—1994-95. Portsmouth, NH: RMC Research Corp., and Kennedy, M. Birman, B. & Demaline, R. (1986). *The Effectiveness of Chapter 1 Services: Second Interim Report from the National Assessment of Chapter 1*. Washington DC: USDOE.

See also Borman, G. et. al. (1998). "The Longitudinal Achievement of Chapter 1 Students." *Journal of Education for Students Placed at Risk*. Vol. 3, p. 363-400.

[2] Campbell, J., Voelkl, K. & Donahue, P. (1998) *NAEP 1996 Trends in Academic Progress: Addendum. National Center for Educational Statistics*, Washington DC: USDOE.

[3] A reasonable starting point would be to limit services to 1 to 1.5 years in the K-3 grade span, and to 2 years in grades 4-8.

[4] There appears to be a finite amount of effective service that is needed to help students and additional help is of little value. The Success for All program seems to produce its gains primarily the first year in grades K-1. My own experience is that it takes 1.5 to 2 years to develop a sense of understanding. Puma et al. (1997) concluded that after controlling for a variety of variables, students who received more years of service had test scores below those who received less help.

[5] Hoff, D. (October 21, 1998) *Kentucky to Include Norm-Referenced Test in Accountability Plan.*.

[6] A recent conversation with a state assessment official indicated that so far they were seeing the same pattern of poor results for minorities on the state tests that had shown up on traditional tests.

[7] Puma, M.J. et al. (1997). *Prospects: Final Report on Student Outcomes*. Washington DC: U.S. Department of Education, Planning and Evaluation Service.

[8] Puma et al., page 7. This table was formed by taking the average of subskills in each subject area. This is probably statistically inappropriate, but it does

provide a simple way to represent the overall trends in the data in a way that is understandable.

[9] Joel Turner, An Elementary Solution for Middle School Troubles. The Roanoke Times, October 12, 1998. (Obtained from the Web.)

[10] Two key reform movements that gained widespread support in the late 80's and early 90's had the effect of eliminating or reducing the delivery of special services directly to needy students. The first movement was 'whole school restructuring' which argued that improving education required dramatically changing whole schools. The second movement was 'full inclusion' which believed that students should not be separated and that all students should be treated the same.

[11] Most of this needs model was first published in: Pogrow, S. (in press). Systematically using powerful learning environments to accelerate the learning of educationally disadvantaged students in grades 4-8. In C. Reiglut (Ed.). *Instructional design theories and models, Vol. II: A New Paradigm of Instructional Theory*, Ch. 14. Matawah, NJ: Lawrence Erlbaum.

[12] What has kept these distinct learning needs hidden is that the indicators that a student is having problems learning in both grade spans are the same. One sees students getting low scores in reading and probably also in math. The seeming content deficit problems in K-3 is really a content learning problem, and a content reinforcement approach helps. However, after the third grade the low scores are not primarily due to content knowledge but a symptom of the understanding deficit. Therefore, if a ***fifth grade*** Title I student is having trouble with reading and math problems the conventional approach of providing extra help in reading and math does not help much because the students lack a sense of how to organize and understand the information learned. Indeed, claims by vendors of major gains after the third grade from direct content instruction approaches usually turn out to be true only for the specific test items or test that students have been taught to take. Change the test and scores drop dramatically since students cannot apply the rote learned information to an unfamiliar context.

[13] Preliminary research findings from an ongoing follow-up study of HOTS students suggest that developing a sense of understanding does not guarantee future success. While most students are doing well two years later there are still motivational factors involved. On the other hand, few if any of the control students who had remedial services instead are doing well. In other words, it appears that the absence of a sense of understanding it is almost impossible for students to succeed as the curriculum becomes more complex.

[14] Bower, B. (1996) Talkative Kids Make Parents Smarter. *Science News*. Report on a presentation at AERA by researchers Betty Hart of the University of Kansas and Todd Risley of the University of Kansas. Vol 150, 100. See also: Hart, B. & Risley, T. *Meaningful Differences in the Everyday Experience of Young American Children* . Paul H. Brooks, Baltimore MD, 1995.

[15] Slavin, R.E. (1991). Chapter 1: A Vision for the Next Quarter Century. *Phi Delta Kappan*, 72(8), 586-589.

[16] Darmer, M.A. (1995) *Developing Transfer and Metacognition in Educationally disadvantaged Students: Effects of the Higher Order Thinking Skills* (HOTS) Program. Unpublished dissertation, University of Arizona.

[17] How to measure the ability to benefit from developing a sense of understanding? My experience is that students who are unable to see multiple traits by which geometric figures are similar or different seldom reach the point where they can generalize. However, this is just a general impression that has not been formally researched. On the other hand, if this turns out to be true it would be possible to design a simple, quick, culturally fair computer administered test to distinguish whether low performing students have average or above ability and can, with the right help, develop a sense of abstract understanding.

[18] The parameters described with respect to the amount of time it takes to develop a sense of understanding and when you should start using it is based on the experience with the HOTS learning environment. Over the years we experimented with many different ways of using it and realized that it did not work nearly as effectively when used earlier or for less time. That does not mean that it is impossible to conceive of someone developing an even more powerful learning environment in the future that would take less time to develop a sense of understanding or that can do so earlier. In the meantime, policy should be based on the capabilities of currently available systems.

[19] For example, while it is clear that there are very different categories of learning needs among Title I students, perhaps there are four of five

categories of need instead of three. In addition, not all Title I students have their needs shift exactly at the start of the fourth grade, and someone may discover a way to develop a sense of understanding that will take less time.

[20] 21 Schoolwide reform is an approach that has been tried periodically for over 100 years. Examples include the Junior High School movement at the turn of the century, the Middle School movement, and the school restructuring movement that started in the mid 80's.

[21] Wong, K.W. & Meyer, S.J. (1998) "Title I Schoolwide Programs: A Synthesis of Findings from Recent Evaluations." *Educational Evaluation and Policy Analysis*, 20(2), p. 115-136.

[22] The actual findings were that in schools that switched from the traditional focused service approach to schoolwides "...about half of schoolwide program schools had higher average gains in reading scores after implementation and about one fourth had higher average gains in math scores." Wong, K.W. & Meyer, S.J. (1998) p. 127. In other words, about half may have ended up with lower reading scores and about three quarters with lower math scores.

[23] Critical independent evaluations of Success for All are: Jones, E. M., Gottfredson, G.D. & Gottfredson, D.C. (1997). Success for Some: An Evaluation of the Success for All Program. *Evaluation Review*, 21(6), 643-670, and Venezky, R.L. (in press). An Alternative Perspective on Success for All. in *Advances in Educational Policy*, vol. 4, Wong, K. (ed.) Greenwich, CN: JAI Press. Both of these studies conclude that the effects are limited to grades K-1, that principals felt that the activities were not helping all their students perform on existing evaluation criteria, and call into question some of the evaluation methodology used by the program.

[24] Slavin, R. E. (1998, April 29) Slavin Responds to Essay's 'Ad Hominem' Critique. Letter to the editor, *Education Week*, 29, 39-40.

[25] Criticism of the present methodology for determining program effectiveness can be found in Pogrow, S. (1998). What is an Exemplary Program and Why Should Anyone Care? A Reaction to Slavin and Klein, *Educational Researcher* 27(7), p. 22-28. This article points out the practical problems with determining the effectiveness of a program by comparing the performance of students in a school where it is being used with another school where it is not. The results reported for the Success for All (SFA) schools in Baltimore are a case in point, where it seemed that the SFA students were doing better, but in an absolute sense they were doing terribly. Alternatively I recommend that research should determine program effectiveness on the basis of whether schools using the program demonstrate consistent substantial gains.

[26] Venezky, R.L. (in press).

[27] Fashola, O. & Slavin, R. (1997) recommended the Accelerated Schools program on the basis of results in one or a few grade levels in three schools, and Comer's School Development Program based on results in four schools (with one grade level in two of them) and inconsistent effects in other schools (see Fashola, O. & Slavin, R. Promising Programs for Elementary and Middle Schools: Evidence of Effectiveness and Replicability. *Journal of Education for Students Placed at Risk*, 2(3), 251-307, 1997). In addition, even in the few cases where gains have been documented, it is not clear that the results are due to the schoolwide model. For example, Merritt Elementary School is cited by Woodruff, D.W., Shannon, N.R. & Efimba, M.O. (1998) (Collaborating for Success: Merritt Elementary Extended School. *Journal of Education for Students Placed at Risk*, 3(1), 11-22, 1988) as an example of a successful demonstration of Comer's School Development Program (see Woodruff, D.W., Shannon, N.R. & Efimba, M.O. Collaborating for Success: Merritt Elementary Extended School. *Journal of Education for Students Placed at Risk*, 3(1), 11-22, 1988). However, the school was also using another well known tutoring program, HOSTS (not to be confused with HOTS). In other words, the real success of Merritt cannot be attributed to the Comer program as opposed to the use of HOSTS.

[28] Examples of recent RAND reports on the New American Schools are: Bodilly, S. J. (1998). *Lessons from New American Schools' Scale-Up Phase*. RAND Education: Santa Monica, CA., and Glennan, T.K. (1998). *New American Schools After Six Years*. RAND Education: Santa Monica, CA.

[29] Puma, M.J. et al. (1997).

[30] Stringfield et al. USDOE study (p. vi).

[31] An independent cost analysis in 1994 estimated the cost of Success for All for a school of 500 students (excluding the cost of materials) to be $261,060 to $646,500. I estimated the cost of implementing a more focused literature program in a

school of 500 students to be $10,935 the first year, $5,660 the second year. Do the more expensive models produce substantially greater learning than less expensive approaches? We do not really know.

[32] Haynes, N.H. (1998). Lessons Learned. *Journal of Education for Students Placed at Risk*, 3(1), 87-99.

[33] Most schoolwide models put a major emphasis on self-governance, achieving democratic consensus, and changing school climate. While these are notable goals, they consume huge amounts of staff time with meetings and do not by themselves result in better curriculum or better teaching. Indeed, the consequences of reforms that over-emphasize process approaches to learning and teaching can be seen in the result of the whole-language movement in California where students ended up tied for last in the country.

[34] New Jersey Supreme Court Syllabus, 1998, *Raymond Abbott et al. v. Fred G. Burke, et al.* Downloaded from:
www-camlaw.rutgers.edu/decisions/supreme/a-155-97.

[35] A recent personal example of what happens when flexibility and simplicity are provided without strong accountability is a letter I received from a HOTS teacher. The school had just decided to drop the program despite the fact that 27% of her Title I students had made honor roll and 30% had made the principal's academic list. Clearly this was a major success. The reason given for discontinuing the program was that the pullout was complicating the school's schedule. The same is probably happening with many other programs and efforts out there. In other words, the demonstrated success of the students was being sacrificed for the convenience of the adults in the school.

[36] States are only required to test reading and math at 3 different points between grade 3 and 12.

[37] In an era of site based management it is difficult to create coordinated interventions. For example, while I have been successful in getting individual schools to adopt the HOTS program, I have been unsuccessful in getting all the elementary schools in a feeder pattern to adopt the program and thereby create a critical mass of higher performing students at the receiving middle school. Nor have I been successful in getting schools to adopt the two-stage model of intellectual development, i.e., working with a group of students, first at the elementary grade level to develop a sense of understanding, and then continuing with that group at the middle school to group them hereogeneously in a challenging academic learning environment. Both these examples suggest that there is currently an over focus in policy and management on the individual school.

[38] For example, under the old legislation if a schoolwide program did not produce specified gains over time the school would lose the right to operate a schoolwide approach. This provision was removed in 1994.

[39] USDOE, 1996 Interim Report. info on sites that remain on notice

[40] Nor is it likely that the needed program development will not likely be forthcoming from the private sector. I have seen only one recent example where I felt a textbook publisher developed a state-of-the-art product. Unfortunately, the effort forced the company into bankruptcy and it no longer exists (although the curriculum was picked up by another company). Even highly funded initiatives seldom result in substantially improved published materials.

[41] We do know a few things that work. Some effective or needed general strategies appear to be: a) teaching reading in kindergarten, b) reducing class size in grade 1 (not necessarily grades 1-3), c) improving teacher and leadership quality, and d) reducing student mobility. My own research suggests that developing a sense of understanding in most, but not all, Title I students pays large dividends after the third grade.

AUTHOR

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THE NEED FOR DEVELOPING PROCEDURAL ACCOUNTABILITY IN TITLE I SCHOOLWIDE PROGRAMS

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The 1994 Improving America's School Act (IASA) has created a new accountability framework for Title I policy. This accountability framework has two central dimensions: flexibility and standards. First, by making it easier for Title I schools to adopt 'schoolwide programs' (programs that provide activities and services to all students in the school, not just student eligible for Title I funds), the legislation gives schools with high concentrations of poverty more flexibility in allocating resources, selecting curriculum, and grouping students for instruction. Second, under the new legislation, schools are expected to use their Title I funding to help all children improve student performance.

To be sure, these legislative expectations—high standards for all children and the flexibility to achieve them—are bold and innovative. But to ensure that schoolwide programs in high-poverty neighborhoods have the capacity to meet these legislative goals, we argue for the development of an infrastructure of federal support and federal assessment of student performance. We see the federal role evolving from a "watchdog"– primarily focused on regulatory compliance–to a more active, supportive partner–providing funding and technical assistance for professional development, for example, and moving toward a vision of monitoring that helps schools and districts identify their needs, exchange information about effective practices, and identify strategies for improvement.

Further, we argue for closer links between the federal government and school districts in helping schoolwide programs develop coherent instructional strategies. These federal initiatives constitute what we call 'procedural accountability' in Title I schoolwide policy. We encourage Congress to consider this notion of procedural accountability in the 1999 reauthorization of Title I.

Our notion of "procedural accountability" is grounded in the concept of "procedural knowledge," the knowledge base developed from research and practice about what it takes to successfully implement the legislative expectations of the Title I program. Procedural accountability is an way to measure the extent to which knowledge is used effectively to meet the legislative expectations of Title I program.

The legislative expectations come from the 1994 Improving America's Schools Act (IASA). The major ones are:

1. Every school should have a comprehensive needs assessment of the entire school that is based on information on the performance of children in relation to state content and student performance standards.
2. Schoolwide reform strategies should: a) provide opportunities for all children to meet the state's proficient and advanced levels of student performance; b) are based on effective means of improving student achievement; and c) use effective instructional strategies, including an enriched and accelerated curriculum, increasing the amount and quality of learning time etc.; d) address the needs of all children in the school.
3. Instruction should be provided by highly qualified professional staff.
4. Teachers and aides need professional development so they can enable all children in the schoolwide program to meet the state's student performance standards.
5. Schools need strategies to increase parental involvement, such as family literacy services.
6. Schools need strategies for assisting preschool children.
7. Schools need to include teachers in decisions regarding the use of assessments.
8. Schools need to ensure that students who experience difficulty mastering any of the state's standards during the school year will be provided with effective and timely additional assistance.

In this paper, we will synthesize the lessons learned from existing studies of Title I, report preliminary findings from our ongoing research on

schoolwide programs, discuss the implications of these findings for policy development, and propose a new vision of the federal government as a supportive partner in our "procedural accountability" framework for Title I schoolwide programs.

For analytical purposes, we differentiate three phases in the evolving Title I policy over time. These are: 1965-1980's: Categorical nature of program dominates service delivery; "pullouts" are a common strategy, 1988-1994: Schoolwide programs are implemented on an experimental basis, and 1994-present: Schoolwide programs are implemented more extensively in high-poverty schools.

These phases can be distinguished from each other in terms of:

- the extent of federal focus on regulatory compliance;
- the extent to which high-poverty schools can combine federal Title I funds with other federal funds and spend them on schoolwide programs focused on improving student achievement;
- the degree to which student performance is a major focus in evaluations of program effectiveness in high-poverty schools.

These three phases of service delivery overlap in implementation. For example, "categorical" dimensions of the old Title I/Chapter I, such as "pullout" programs, remain fairly prevalent today even in schools claiming to operate schoolwide programs. The federal role has also shifted toward a focus on holding schools and districts accountable for improving the performance of all students, including poor children. (For a more thorough treatment of the program's evolution, see Natriello and McDill, this volume).

Phase One: Categorical Arrangement Dominates Title I in the 1960s-1980s

The Elementary and Secondary Education Act of 1965 (ESEA) marked a significant turning point in the federal government's role in improving public schools and social conditions for the nation's children. The 'Great Society' programs were designed to alleviate poverty, and in an effort to achieve this goal, the federal government required local governments to try new approaches and reformulate the delivery of services in all anti-poverty programs. However, in an effort to ensure that local government used the money properly, Congress also imposed numerous, complicated guidelines on local schools. These regulations were intended to make certain that federal dollars directly benefited disadvantaged pupils.

In the case of Title I, extensive misuse of funds at the local level prompted the federal government to write even tighter regulations during the 1970s. Most notably, a NAACP Legal Defense Fund study conducted during the early years of Title I found that schools were using Title I money not specifically to help disadvantaged children but for "general school purposes; to initiate system-wide programs; to buy books and supplies for all school children in the system; to pay general overhead and operating expenses; [and] to meet new teacher contracts which call for higher salaries" (Martin & McClure, 1969). Consequently, throughout the 1970s, federal leaders in Congress and the executive branch felt the Title I program required an exceedingly well-defined set of rules and guidelines, but many state and local officials had difficulty meeting these strict guidelines, because of both the nature and the extensive number of regulations.

At that time, Title I regulations stipulated that districts:

- use federal funds only in the schools with the highest concentration of poor students;
- use federal dollars to supplement rather than replace local and state revenues in Title I schools (the 'supplement, not supplant' rule);
- allocate the same amount of local money to Title I schools as any other schools in the district. (the 'comparability' requirement);
- commit at least the same level of local resources as provided in previous years (the 'maintenance of effort' requirement).

Furthermore, during the 1970s and the early 1980s, Title I required schools and districts to establish advisory councils of parents of participating children. As was typical of federal categorical programs, only eligible students were "allowed" to receive the services supported with federal Title I dollars.

As expected, there was resistance at the local level to the targeting of federal funds on special-needs students. In a comparative study of four major federal education programs in four urban districts, Peterson, Rabe, and Wong (1986) found that during the 1970s and 1980s, local districts, to varying degrees, were tempted to divert funds from redistributive programs for disadvantaged students to use the money for other purposes such as general operating expense that benefit the entire school population.

In time, local schools and districts became more able to accommodate and adapt to federal Title I regulations. (Wang, Reynolds, & Walberg, 1993). This shift from a period of conflict between the local and federal government to a period of "regulatory accommodation" has been facilitated by several factors. At the district and school level, there was a growing cadre of school administrators and teaching staff who understood and accepted Title I program objectives, and the expectation that services would be targeted on the poorest children. At the federal level, policymakers began to consider whether the combination of detailed regulations, strict audits, and time-consuming paperwork associated with federal evaluations were creating insurmountable barriers to program implementation. As a result of these and other developments, program identifications that transcended governmental boundaries and a commitment to a coordinated effort gradually emerged.

To be sure, the pace of moving toward federal-local cooperation in the management of programs for special needs students, such as Title I, special education, and bilingual education students, is not uniform. There are significant variations across school districts (McLaughlin, 1990). Wong (1990) found that local reform in Title I services depends on the district's fiscal conditions, political culture, and the autonomy of the teachers and administrators. More severe and prolonged conflict over local noncompliance with federal regulations is likely to be found in poor districts with a weak fiscal capacity, because they are more likely to divert federal Title I funds for other purposes and engage in political patronage in hiring. A combination of these fiscal and political circumstances hinder local reform toward redistributive goals. At the other end of the continuum, less conflict was found in districts with strong fiscal capacity, strong district leadership, and teacher commitment to federal policy objectives (McLaughlin, 1987; Elmore, 1980; McLaughlin & Berman, 1978). These local conditions facilitated the transformation from a period of local-federal conflict over noncompliance to one of local accommodation of federal regulations in Title I programs. This institutional process of adaptation (e.g. targeting resources to eligible students) is a necessary condition for instructional and academic improvement in disadvantaged schools.

As federal fiscal auditing requirements became more manageable for districts, improvements in teaching and learning for disadvantaged students emerged at the top of the national policy agenda. A broad consensus was emerging among policymakers and educators that the narrow categorical programs such as Title I had produced too few benefits (Wong & Wang, 1994; Wang & Reynolds, 1995). Public concerns with student performance are in part due to the increasing global economic competition and in part to the dissemination of comprehensive assessments of our educational system such as the National Assessment of Education Progress and the Third International Math and Science Study, which created a common yardstick for national and international comparisons of student performance. For example, a major federally-funded study based on a national survey of the Education Consolidation and Improvement Act (ECIA), Chapter 1 district-level coordinators in 1990 found that the coordinators ranked federal Chapter 1 funding requirements (the 'supplement not supplant', maintenance of effort, and comparability provisions) as far less burdensome than Chapter 1 regulations affecting instructional practices. They viewed federal regulations governing evaluation, needs assessment, and student selection as the three most burdensome areas of Chapter 1 regulations.

Schools receiving Title I funds often use "pullout" programs, removing children from their regular classroom for special instruction largely because pullout programs make it easier to meet federal accounting requirements because they can identify the specific students being served. A 1983 survey of district-level program coordinators found that 73 percent of respondents used pullouts mainly to comply with the federal regulations. More often than not, "pullout" sessions offer inferior instruction and set low standards for participating students. "Only 18 percent of district administrators who used a pullout design indicated they believed it was educationally superior to any other mode of delivery" (Millsap et. al. 1992). As Michael Kirst (1998) observed, the 1983 report "A Nation At Risk" renewed public concerns that Chapter 1 students did not have access to the same core academic curricula and coursework as other students in the general population. Indeed, in 1992, the Commission on Chapter 1 urged that the federal government redesign the program in a way that would encourage schools to adopt more comprehensive, less fragmented strategies for educating disadvantaged children. To paraphrase the Commission's central argument, federal policy should promote "good schools," not merely provide good programs.

Phase Two: Schoolwide Programs on an Experimental Basis from 1988 to 1994

To reduce fragmentation in Title I schools, in 1988 Congress adopted the Hawkins-Stafford

Amendments to the Elementary and Secondary Education Act. The new legislation required that schools coordinate Chapter 1 instruction with the regular instructional program, encourage parental involvement, eliminate the requirement that schools with high concentrations of poor children obtain matching funds in order to establish a schoolwide program, and direct districts to take steps to improve Title I programs deemed ineffective because of low student achievement. To promote these reforms, Congress awarded each state a modest grant of $90,000, which amounted to about $2,000 per school district in the U.S.

Several national trends in classroom organization seemed to have emerged following the implementation of the Hawkins-Stafford Amendments. First, an increasing number of Chapter 1 schools were beginning to combine or replace pullout programs with an "in-class" strategy, in which eligible students received additional assistance within their regular classroom setting. Yet "pullouts" remain by far the most popular instructional arrangement for Title I programs. Between 1985 and 1990, one study found that "there has been almost a 50 percent increase in the number of districts offering in-class instruction" (Kirst, 1988, p.110).

Second, the Hawkins-Stafford amendments in 1988 allowed schools with 75 percent or more of students living in poor families to establish schoolwide programs. This new flexibility seems to have encouraged the growth of schoolwide programs. In 1990, 1,362 operated schoolwide programs, up from just 621 schools the previous year. High-poverty schools were now permitted to use federal funds to reduce class size, develop staff training programs, encourage parent involvement, and recruit new professional support personnel such as counselors, librarians, and nurses.

A review of the literature during this experimental phase suggested the following patterns of implementation.

Hiring of Additional Staff/ Reduced Class Size

Title I funding at schools operating schoolwide programs has been frequently used to hire additional staff, reducing class sizes. Reduced class size was identified as a key component of schoolwide programs by principals in slightly more than half of schools operating schoolwide programs during the 1991-92 school year. Schools reported an average reduction in class size from 27 to 19 children. Hiring of additional staff was not limited to teachers, schools also hired counselors, social workers, school-family coordinators, and schoolwide program coordinators. (Millsap, et al., 1993).

Staff Development

Principals reported that new staff development activities had been implemented, or existing ones significantly strengthened, in more than three-quarters of schools operating schoolwide programs. During the first years of implementation, a majority of districts reported that schools operating schoolwide programs offered a larger number of hours of staff development and the staff development activities that included both Title I and non-Title I teachers, compared to staff development in regular Title I schools. Staff development activities in schools operating schoolwide programs have included: training in reading/language arts instruction, instruction for low achieving students, and mathematics instruction (Schenck & Beckstrom, 1993). According to principals' reports, a teacher at a school operating a schoolwide program received an average of 29 hours of staff development, six hours more than the average teacher in a Title I school without a schoolwide program (Schenck & Beckstrom, 1993; Millsap, et al., 1993).

Shared Decision Making and Teacher Input

The schoolwide program option encourages increased teacher input into decisions affecting the school, emphasizing teacher input into decisions about assessments. According to principals reports' in one major urban school district, teachers only had a moderate level of input into school decisionmaking. (Winfield & Hawkins, 1993) The majority of teachers had some level of input into decisions about assigning students and teachers to classrooms, hiring staff, and selecting instructional materials or purchasing computer hardware. Teachers had the greatest input in the decisions about selecting materials or purchasing hardware but had the least input in decisions about teacher assignment and recruitment of new teachers. (Winfield & Hawkins, 1993). In-depth case studies, however, suggested that a school's adoption of a schoolwide program tended to be accompanied by a high degree of teacher control and site-based management arrangements (Stringfield, et al., 1997).

Distinction of Title I Services from the Regular Program

A central component of schoolwide programs is the provision of Title I activities and services to all students in the school, not just students eligible under poverty guidelines to receive Title I services. One

indicator of a schoolwide program's inclusiveness is the extent to which Title I services cannot be distinguished from services offered to all children (e.g., a school that lacks pullout programs that only serve a subset of students). Sixty percent of principals in schools offering schoolwide programs reported that Title I services were indistinguishable from services provided to all children. In those schools in which Title I services were distinguishable from the regular program, the most common distinction was the provision of additional services to educationally-disadvantaged students who would have traditionally received Title I services in a targeted program. Only 12 percent of schools reported using a "pullout" model (Schenck & Beckstrom, 1993). Principals in one major urban district indicated that during the first years of the transition from targeted to schoolwide programs, the schools operating schoolwide programs reallocated more resources to providing services to all children. (Winfield & Hawkins, 1993).

Classroom Instruction and Curricula

Perhaps the most critical components of schoolwide programs are those which potentially have a direct influence on the classroom. Schoolwide program principals reported having introduced or significantly strengthened the following components of curriculum and instruction: computer-assisted instruction (over three-fourths of principals); provision of a coordinated, integrated curriculum—not pullouts; supplemental instruction (two-thirds of principals); and offering an extended school day (less than one-fourth of principals) (Schenck & Beckstrom, 1993). Most schools operating schoolwide programs have adopted a range of innovative, comprehensive programs such as the reform model developed by Yale University professor James Comer, the School Development Program (Millsap, et al., 1992; National Association of State Coordinators of Compensatory Education, 1996).

It is difficult to obtain a clear picture of the particular ways in which the schoolwide program option actually impacts classroom instruction. However, in-depth case study analysis can help answer this question, however. For example, case studies of schoolwide programs identified a common theme of individualizing instruction to the needs of particular students (Stringfield, et al., 1997). Additional evidence indicates that schoolwide programs have increased the capacity of schools and teachers to provide instructional services more flexibly, as particular student needs arise; whereas traditional Title I "pullout" programs have typically provided instruction in a more scripted, rigid form. (Millsap, et al., 1992).

Components Associated with Effective Classroom School Practices

In addition to the components described above, schoolwide programs often have components associated with the "Effective Schools" movement, such as extensive parental involvement and a strong instructional leader. State Title I coordinators reported that 62 percent of schoolwide programs in their states incorporated components of "Effective Schools" programs as a main feature of their programs (Turnbull et al., 1990; U.S. Department of Education, 1992). Title I district coordinators reported that schoolwide programs implemented a wide range of "effective schools" practices in areas such as needs assessment, staff development, changes in classroom instruction, and changes in school management (Millsap, et al., 1992). The fact that a school possesses "effective schools" characteristics may have a reciprocal impact on the successful implementation of schoolwide programs. In other words, the qualities that make a school a good school may also facilitate innovation and change in that school and therefore assist in the implementation of new initiatives, such as schoolwide programs. Case studies suggested that factors facilitating innovation included: strong principal leadership and management skills; meaningful, universally agreed upon goals; a nurturing school culture; well-qualified staff; and organizational mechanisms to support school problem-solving (Stringfield, et al., 1994; Wang, Haertel, Walberg, 1996).

Schoolwide programs have also facilitated district efforts to encourage parental involvement. Between 1987 and 1990, more districts reported "disseminating home-based education activities to reinforce classroom instruction," and using liaison staff to coordinate parent activities (Millsap, et al., 1992).

While the concept of schoolwide programs began to attract national attention in the late 1980s, research continued to lag behind during the early- and mid-1990s. Evaluation of schoolwide programs in the initial years has yielded some contradictory findings. On the one hand, findings suggest that, as a group, Title I students in schoolwide programs performed better than their peers in the more traditionally organized services, such as pullout instructional settings. On the other hand, nationwide evaluations suggest that schools adopting schoolwide programs have continued to encounter a wide range of implementation challenges. These challenges

included the need for better, higher quality assessment of students and a general lack of high-quality professional development activities. Further, the database on the implementation and outcomes of Title I schoolwide projects is scanty (Wong & Wang 1994; Wang & Wong 1997; Wong & Meyer 1998). An extensive review of the literature on Title I programs since the 1988 Hawkins-Stafford amendment suggests only 13 major empirical studies on the implementation of Title I schoolwide programs (Wong and Meyer, 1998). Clearly, we need to understand whether the 1994 legislative expectations have been implemented at the school and classroom level.

PHASE THREE: SIGNIFICANT INCREASES IN SCHOOLWIDE PROGRAM IMPLEMENTATION SINCE 1994

The 1994 Improving America's Schools Act lays out an ambitious agenda for systemic improvement in schools with high concentrations of at-risk students. Two provisions in the 1995 legislation have significant implications for educational opportunities for this population. The first mandates that district performance standards must apply to all students, including those receiving Title I services. The Administration's IASA proposal stated that as "Title I, bilingual education, and dozens of other federal programs must become integral to, not separate from, state and community education reforms that center on high standards" (U.S. Department of Education, 1993, p.3).

The second IASA provision promotes schoolwide initiatives in Title I schools with at least 50 percent of students living in low-income families. Schoolwide programs give high-poverty schools more flexibility in using their Title I resources to ensure that all students meet district and state performance standards as stipulated in the 1994 legislation. The 1994 Act encouraged the widespread adoption of schoolwide programs. Beginning in the 1996-97 school year, the act lowered the participation threshold from schools with 75 percent of children living in poverty to schools with 50 percent or more of students living in poverty. Indeed, the number of Title I schoolwide programs grew from fewer than 1,200 in 1991, to more than 9,000 during the 1997-98 school year, an increase from about 10 percent to 50 percent of the eligible schools.

The schoolwide program strategy was intended to reduce the fragmented, categorical character of Title I programs; it was also intended to help improve the overall effectiveness of entire schools, rather than targeting services to meet the needs of the most disadvantaged sub-populations within a school. In other words, schoolwide programs are designed to shift the federal role from one focused on regulation and compliance to a more supportive role focused on 'whole-school reform,' working in partnership with schools to promote a more coherent, coordinated approach to instruction. These legislative expectations were further strengthened in late 1997, when Congress enacted Public Law 105-78, also known as the Obey-Porter legislation. Under Obey-Porter, Congress appropriated an additional $145 million to support the Comprehensive School Reform Demonstration Program (CSRD) which gives funds to states to award competitive grants to districts implementing research-based models of "whole-school reform." Both IASA and Obey-Porter provide a set of legislative expectations that research suggests are essential to any successful school. These legislative expectations state that basic components of schoolwide programs or "whole-school" reform programs include:

- An instructional program grounded in effective, research-based methods and strategies.
- A comprehensive assessment system that measure whether student are meeting state and district subject-area content and performance standards. Schools must develop measurable goals and a system of benchmarks to measure students' progress in meeting these goals.
- High-quality professional development for teachers, aides, and other support personnel, so they can help all students meet the state and district performance standards.
- Strategies for increasing parental and community involvement.
- Strategies to identifying how to utilize federal, state, local, and private resources to support and sustain the reform program.

These legislative expectations have transformed Title I from a categorical, isolated program into one that is an integral part of "systemic reform," coherent with core academic standards. Together the IASA and the Obey-Porter legislation provide a unique opportunity for high-poverty schools to raise standards and to raise student achievement.

The National Study of Effective Title I Schoolwide Programs

To examine the extent to which the schoolwide programs are facilitating the implementation of system-wide school reform and improving student

achievement, "The National Study of Effective Title I Schoolwide Programs" was initiated by the Laboratory for Student Success (LSS), the Mid-Atlantic Regional Educational Laboratory at Temple University's Center for Research in Human Development and Education. This project will assess the extent to which the "more effective" and "less effective" schools, defined as high-performing and low-performing schools, and as measured by student test scores, have responded to the IASA's legislative expectations. Given the broadly defined legislative language, the implementation of the schoolwide provision is likely to result in wide variation at the local level. Title I schoolwide programs in high-performing schools are more likely to show a greater degree of implementation of the IASA expectations.

Specifically, this research initiatives comprises three studies. The first is a series of field-based case studies of "more effective" and "less effective" schools. The second study uses the NCES Common Core database and NAEP database to analyze more effective and less effective schoolwide programs. The third study is a survey of a random sample of schools operating schoolwide programs, drawn from a list of schools provided by 47 states during the 1997-98 school year. Here we present our preliminary analysis of the comparative case studies.

The series of field-based case studies was conducted by LSS in collaboration with four other Regional Educational Laboratories: Appalachia Educational Laboratory, North Central Regional Educational Laboratory, Northwest Regional Educational Laboratory, and Southeastern Regional Vision for Education. This cross-lab study team examined 32 schools in 9 urban and 3 county districts. Sixteen schools were identified as "more effective" and 14 were identified as "less effective," defined in terms of student achievement levels in those schools, controlling for the effect of the average school poverty on achievement. For the study, researchers surveyed 593 teachers, 21 principals, 1,928 students, and 507 parents; recorded classroom observations of 126 teachers and 713 students; conducted in-depth interviews with 25 principals, 169 teachers, 16 Title I district coordinators; and held 10 focus groups with groups of parents. Appendix A provides detailed information on research design, data collection instruments, and the sampling of more effective and less effective schools.

Findings from Preliminary Studies of Comparative Cases

The findings from a preliminary analysis of the case-study data highlight three main findings:

- teachers and principals have a stronger sense of accountability in effective schools
- more effective schools are likely to meet the IASA requirements
- district-wide academic standards have an impact on schoolwide programs

Teacher and Principal Perceptions of Accountability and Flexibility

Findings from preliminary analysis of the case studies show that teachers in the more effective schoolwide programs, when compared to their peers in the less effective settings, tend to have a sharper focus on academic accountability and agree that there has been an increase in practices associated with holding students and schools accountable for their performance. Teachers in the more effective (better-performing) schools consistently showed a stronger degree of agreement with each other about accountability issues in their schools. For example, as Table 1 shows, 42 percent of the teachers in the 16 better-performing schools "agreed' or "strongly agreed" with the statement that there has been "an increase in students' standardized test scores" since their school adopted a schoolwide program; only 32 percent of teachers in the 14 lower- performing schools agreed. Fifty-five percent of the teachers in the better-performing schools suggested that their school's performance has been clearly documented. There were also slightly more teachers in the better-performing schools who agreed that "federal and state monitoring practices" primarily focused on schooling quality (45 percent in the better-performing schools versus 42 percent in the lower-performing schools). Descriptive statistics in the teachers' responses between the better- and lower-performing schools are also shown in Table 1.

TABLE 1
TEACHER RESPONSES TO THE IMPLEMENTATION OF FEDERAL TITLE I POLICY, 1998

	More Effective (%)	Less Effective (%)	Difference (%) Between More and Less
Accountability			
Question 5	N=341	N=241	
Since my school began implementing a Title I Schoolwide project, I have noticed an increase in students' standardized test scores.			
Disagree	11.1 (341)	15.7	
Uncertain	46.9	52.3	
Agree	42.0	32.0	10.0
Question 35	N=343	N=235	
The progress or lack of progress my school has made toward Title I goals is clearly documented.			
Disagree	3.2	3.8	
Uncertain	42.0	48.1	
Agree	54.8	48.1	6.7
Question 41	N=339	N=239	
Federal and state monitoring practices focus primarily on the educational quality of my school.			
Disagree	8.6	8.0	
Uncertain	46.6	50.6	
Agree	44.9	41.4	3.5
Resources/Teaching Conditions			
Question 18	N=344	N=239	
Title I funding has helped reduce class size in the school.			
Disagree	34.0	36.9	
Uncertain	30.8	22.6	
Agree	35.2	40.6	-5.4
Question 28	N=335	N=240	
I have taken advantage of resources available at federal technical assistance centers.			
Disagree	38.0	42.5	
Uncertain	36.7	25.4	
Agree	25.4	32.1	-6.7
Question 29	N=334	N=237	
The federal technical assistance centers provide useful resources for my school.			
Disagree	15.3	20.6	
Uncertain	63.5	54.4	
Agree	21.3	24.9	-3.6
Question 30	N=339	N=233	
Federal resources have facilitated the increased capacity of my school to meet its needs in flexible and creative ways.			

Disagree	14.1	16.7	
Uncertain	44.8	39.5	
Agree	41.0	43.7	-2.7

Decision-making in Title I Program

Question 31	N=340	N=238	

Teachers have significant input in decisions about the use of federal resources at my school.

Disagree	30.6	28.2	
Uncertain	35.6	31.1	
Agree	33.8	40.8	-7.0

Question 42	N=341	N=244	

My school effectively involves parents in the planning and improvement of Title I supported activities.

Disagree	14.9	15.2	
Uncertain	25.8	25.8	
Agree	59.2	59.0	0.2

The principals' views about accountability were generally consistent with the teachers' responses. We were able to interview 11 principals of the better-performing schools and 11 principals of the lower-performing schools. While 7 of the 11 principals in the better performing schools "noticed an increase in students' standardized test scores" following schoolwide implementation, 6 of the 11 principals in lower performing schools agreed with the statement. All the 11 principals in better performing schools "agreed" or "strongly agreed" that their school performance has been clearly documented, compared to 9 of the 11 principals in the lower-performing schools. Documentation is an important dimension of accountability, because keeping records of student performance in one way a school can show it is paying attention to student performance.

With regard to how federal Title I resources have affected teaching conditions, teachers' responses differed slightly between the two types of schools. In the better-performing schools, fewer teachers reported that Title I funds were used to reduce class size. Only 1 out of 4 teachers in better-performing schools mentioned that they made use of the resources at the federal Title I technical assistance centers, while only 1 out of 5 of them rated the technical assistance centers as providing useful resources for their school. Principals, too, seemed to have some reservations about the technical assistance centers. Only 4 of the 11 principals in both the better-performing and the lower-performing schools mentioned that they "have taken advantage of resources available" at the technical centers. Interestingly, more than 40 percent of the teachers in both better- and lower-performing schools reported that federal resources facilitated flexibility and creativity to meet the educational needs. At least 6 of the 11 principals in both types of schools also valued the flexibility and creativity that federal resources afforded them. In other words, schoolwide programs have allowed for variation in local instructional practices.

According to the teacher surveys, only 33 percent of the teachers in better-performing schools felt that they exercised "significant input in decisions about the use of federal resources" at their school. (See Table 1) This is lower than the 41 percent in the lower-performing effective schools. In contrast, a clear majority of teachers in both types of schools reported that the school effectively involved parents in the "planning and improvement of Title I supported activities" in their schools, as suggested in Table 1. Not surprisingly, teachers felt that their decision-making power is not as extensive as the parents'. Consistent with the teachers' view, virtually all the principals reported effective parental involvement in the planning and improvement of Title I-supported activities in their schools.

More Effective Schools Are Likely to Meet the IASA Expectations

Table 2 shows the means and standard deviations with the results of Anovas (a statistical technique to analyze variance) for the teacher survey scales, in the survey in which we interviewed 593 teachers on Title

l schoolwide legislative expectations and school climate/governance. As shown in Table 2 and Table 3, teachers rated all the implementation components and school climate scales above the mean (range 1 to 5; mean 3). They gave the highest ratings to instructional strategies with cooperative learning emphasis and student/teacher relationships, while they gave the lowest ratings to the allocation and availability of resources allocation and availability, and student discipline/behavior school problems. The results suggest that "more effective" compared to "less effective" schoolwide programs show stronger implementation of student performance goals, academic standards and assessments, enriched curriculum, student-centered instruction, evaluation of student performance, availability and usefulness of professional development, resource allocation and availability, accountability, and parent involvement. Also, teachers from higher-performing schools rate the quality of teacher-student relationships, colleague relationships, principal leadership, student discipline/behavior problems, and student attitudes toward schooling significantly higher than teachers from less effective schools. The two groups do not differ statistically significantly in their views of the quality of implementation of cooperative learning strategies and shared decisionmaking components. These results indicate that more effective schools are implementing the IASA legislative expectations to a great degree, and also have more positive school climate/governance than less effective schools.

TABLE 2

TEACHER VIEWS OF LEGISLATIVE GOALS

	Less Effective Mean	SD (N=245)	More Effective Mean	SD (N=348)	Anova F
Legislative Expectations					
Student performance goals	3.78	.56	4.02	.54	25.06***
Standards/Assessment	3.65	.77	3.89	.71	13.71**
Evaluation	3.99	.60	4.18	.52	14.14**
Enriched curriculum	3.57	.68	3.85	.68	22.28***
Student-centered instruction	3.87	.61	4.04	.57	10.85***
Cooperative learning instruction	4.11	.58	4.22	.56	5.27*
Professional development	3.74	.70	3.92	.72	9.35**
Allocation and availability of resources	3.25	.63	3.34	.61	2.70
Accountability	3.64	.57	3.76	.55	6.87**
Parent involvement	3.77	.56	3.87	.58	4.15*

* $p < .05$ ** $p < .01$ *** $p < .0001$

TABLE 3
TEACHER VIEWS OF CLIMATE, GOVERNANCE AND SCHOOL EFFECTIVENESS

	Less Effective Mean	SD (N=245)	More Effective Mean	SD (N=348)	Anova F
School Climate/Governance					
Teacher/Student relationships	4.13	.54	4.33	.51	20.15***
Colleague relationships	3.85	.73	4.10	.60	19.22***
Shared decision making	3.10	.97	3.13	.97	0.18
Principal leadership	3.70	.92	3.92	.80	9.37**
Student behavior/discipline problems	3.07	.51	3.26	.50	18.88***
Student attitude	3.71	.65	3.96	.62	20.96***

* $p < .05$ ** $p < .01$ *** $p < .0001$

District-wide Academic Standards Shape Schoolwide Programs

Our study found that urban districts are paying increasing attention to low-performing schools, many of which are implementing Title I schoolwide programs. In the nine districts we studied, district reform agendas include creating a general emphasis on accountability and providing guidelines for resource allocation and professional development. For example, Tacoma has a district-wide literacy program that focuses on improving literacy in low-performing schools. In Chicago, schools on probation receive additional local resources to recruit external partners to address their needs. Philadelphia's Teaching and Learning Network, discussed in more details below, is one example of the kinds of technical support the district provides to schools. Clearly, district-wide standards are affecting the way schoolwide programs are implemented in these districts. In this section, we briefly discuss our preliminary analysis of the interview data from four of our sample districts (Philadelphia, Montgomery County, Chicago, and Tacoma) using the Nud*ist program, a computer program that assists in the sorting and classification of qualitative data.

Philadelphia, PA

In determining the impact of the Philadelphia public schools' reform agenda on the implementation of Title I schoolwide programs in that city, our analysis focused on the connection between the district's "Children Achieving" reform initiative and implementation of Title I schoolwide programs in the participating sample schools. Under the leadership of Superintendent David W. Hornbeck, the Children Achieving initiative is focused on ensuring that Philadelphia children can perform at high levels so they can enter the 21st century with confidence about their future. The plan spells out the steps the district needs to take over the next four and one-half years and is based on a ten-part framework, described below. The Children Achieving initiative is comprehensive in scope, ranging from setting new high standards for students so they can compete in our global economy, to creating the additional time teachers need to prepare students to meet those standards. It has involved the implementation of full-day kindergarten, reductions in class size, and the reorganization of the entire structure of the School District into "clusters" of schools, and the division of large schools into Small Learning Communities (SLC).

In the ten-part reform framework for Children Achieving, each of the ten components contains a statement of vision and rationale, specific strategies describing how to achieve this vision, and a time-line identifying significant steps in this process:

1. Set high expectations for everyone.

2. Design accurate performance indicators to hold everyone for results.

3. Shrink the centralized bureaucracy and let schools make more decisions.

4. Provide intensive and sustained professional development to all staff.

5. Make sure that all students are ready for school.

6. Provide students with the community supports and services they need to succeed in school.

7. Provide up-to-date technology and instructional materials.

8. Engage the public in shaping, understanding, supporting and participating in school reform.

9. Ensure adequate resources and use them effectively.

10. Be prepared to address all of these priorities together and for the long term – starting now.

Small Learning Communities (SLC) are also a significant strategy of the reform initiative. The district has broken up large schools into smaller subgroups, in an effort to ensure students, teachers and parents become part of a small, more closely-knit community. Most are formed around a particular theme, such as cultural diversity. Each Small Learning Community serves between 200 and 500 students. Students are grouped heterogeneously instead of being tracked by ability level, and all students are expected to meet rigorous standards. The district holds the Small Learning Communities accountable for student achievement and each SLC has decision-making authority commensurate with how well its students are performing. The district also seeks to connect the Small Learning Communities closely with parents and with community resources and services.

Our data indicate that by the second year of the "Children Achieving" initiative, schools and clusters were beginning to integrate the district reform initiative into their existing Title I schoolwide programs. Following an initial period political conflict and policy confusion, educators began to accommodate and adapt the reforms to the cluster, school, and classroom levels.

Highlights of the ways the "Children Achieving" initiative is strengthening the professional capacity of the Title I schoolwide programs in Philadelphia are discussed below.

District restructuring-Cluster services for schoolwide programs.

Administrators created a created Teaching and Learning Network (TLN), a initiative to provide training and other support to teachers and principals at the cluster level. The network is composed of coordinators-one for each cluster, six to eight "facilitators," and an equity coordinator. The equity coordinator tracks Title I programs, desegregation efforts, special education efforts, and ESL programs, and keeps schools informed of a broad array of equity issues. During the initial implementation period, at the cluster level the TLN coordinators, facilitators, and equity coordinators continued to define their roles and establish their relationships with the schools. In each of the four study sites, the TLN was actively organizing new types of professional development activities for teachers both at the cluster offices and at the schools.

There was considerable variation as to how frequently the TLN staff visited the schools. By the second year of the reform initiative, all four clusters and their respective schools had established schedules of when, where, and what type of professional development support services the TLN would provide to teachers. Further, the equity coordinators worked with the TLN to customize professional development to meet the needs of schools with high proportions of at-risk students. In each site, a system of support was clearly emerging.

School restructuring: Small learning communities and school councils.

By the second reform year, nearly every cluster leader and teacher in the schools we visited had positive things to say about the concept of breaking up large schools into smaller learning communities. The Small Learning Communities (SLCs) were frequently mentioned by teachers as one of the most positive aspects of the Children Achieving agenda. After a year of working in the small communities, several teachers said it gave them more time to plan with other teachers, time that was not previously built into their schedule for this purpose. Teachers were also able to share instructional strategies with each other during this new planning time. In Title I schoolwide sites, SLCs facilitated the instruction of students in heterogeneous groups rather than tracking them by ability level. In turn, Title I funds and program staff helped facilitate the development of SLCs.

While the Small Learning Community concept meshed well with the goals of the Title I schoolwide programs, because both focus on holding all students to high standards of performance, and integrating them into a single "learning community" with a common curriculum, the district's School Council initiative has not blended as successfully with these goals. Each of the four schoolwide sites reported having had difficulty establishing the school councils and securing the necessary parent vote of support to

be officially approved by the district. Often times, schools already had existing governing bodies and saw the new council as superfluous. It remains to be seen whether they will have a positive impact on the operation of schoolwide programs.

Classroom Level-Academic standards and assessment.

While the clusters and SLCs change represented a new form of organizational structures, both at the district and school level, the new standards and assessments introduced under "Children Achieving" blended very well with the goals of the Title I schoolwide programs at the classroom and instructional level. In many cases, Title I funding has helped provide professional development time for teachers to learn how to design and prepare for tests required under the Children Achieving Initiative, and the new TLN support services provided by the cluster initiative has given teachers the assistance necessary to improve their day-to-day teaching. Equity coordinators and teachers were able to set aside time to review the pace of students' academic progress at the schoolwide sites. In short, there were positive intersections between Children Achieving and Title I that seemed to directly impact and improve education for at-risk students at the classroom level.

Conclusion

Our study of the Children Achieving reform in four Title I schoolwide sites suggests a pattern of implementation that is common to other educational reform: a period of initial conflict and confusion, followed by a gradual adaptation and accommodation of the reforms to the school settings. There is a close match between the legislative expectations for Title I schoolwide programs and the Children Achieving agenda. This match has greatly facilitated the interface of Title I schoolwide implementation and district-based reforms. Our preliminary findings suggest that teachers expressed satisfaction with the changes at the classroom instructional level toward the end of the second reform year.

Montgomery County, MD

The implementation of Title I schoolwide programs in the Montgomery County, Maryland public schools provides another illustration of the significant role of district-wide reform initiatives. While Montgomery County is a relatively affluent suburb, its demographics are changing, posing challenges similar to those in urban school districts. Among these challenges are the fact that the student population is increasingly diverse, including a growing number of students from minority and low-income backgrounds, and the county teaching staff is not fully prepared to meet their needs. These professional-development concerns, coupled with fiscal limitations have also raised concerns about the district's capacity to support the program implementation needs of the school staff. Fifty eight schools in the Montgomery County Public Schools (MCPS) are eligible to receive federal Title I funds. Three of these are operating schoolwide programs because 50 percent or more of their students are low-income students.

In response to these challenges, the MCPS adopted a reform initiative know as "Success for Every Student" (SES) in 1992. The initiative employs broad system-wide strategies to raise student achievement. It specifies various tasks for schools, central administrative offices, parents, and communities, to achieve four goals: (a) ensure academic success for every student; (b) provide an effective instructional program; (c) strengthen partnerships for education; and (d) create a "self-renewing" organization with a positive work climate in which staff effectiveness and creativity are encouraged, respected, valued, and supported to promote productivity and ownership for student success, with the instructional program including efficient and effective support and staff development.

In Montgomery County, the central question of our research was what impact the MCPS reform initiative was having on the quality of instruction and curriculum in schools operating schoolwide programs. Our preliminary analysis of data collected from two of the three schoolwide programs in Montgomery County suggests that the district initiative raised two schools' expectations about student performance, (a similar finding observed in Philadelphia). Teachers said the entire staff's effort is necessary to ensure that students pass the Maryland statewide test. Our classroom observations also suggest that a fair amount of time was devoted to preparing students for meeting the accountability standards, as measured by the district-wide reading and math tests.

While all three schoolwide programs had a strong focus on student performance, the programs adopted different instructional strategies. At one school, teachers relied heavily on test data to group students by their level of performance, regrouping them as they progressed. In another, teachers used aides to assist small groups of students needing extra attention within the regular classroom setting. Further, one school focused on developing students'

writing skills across all academic subjects. As a fifth-grade math teacher pointed out, "Students have their entries every day and whatever they answer has to be in complete sentences. We have a little symbol that says 'sentences please.' We try to have them write more and use complete sentences."

Overall, schoolwide programs in MCPS seemed to benefit from a district that is fiscally sound with a vision of educational accountability focused on success for every student. In terms of student achievement, one of the schools showed particularly strong performance in math at both the third and the fifth grades. Given the district's relatively sound resource base, it is not surprising to see extensive professional development activity, organized parental involvement, and perhaps, most importantly, teacher collegiality.

Chicago, IL

Since 1996, the Chicago school board has intervened directly in the district's lowest performing schools, employing a variety of strategies to raise student achievement. For example, the school board places schools on probation if more than 15 percent of students scored at or above the national norm in math and reading, but also provides additional resources to help the schools improve. The district also terminated social promotion (the practice of promoting, rather than holding back students who are not ready for the next grade) and required students to meet basic standards on the Iowa Test of Basic Skills. Students who fail the test in the spring are required to attend summer school and retake the test in August.

In addition, the district developed the Chicago Academic Standards (CAS) and Curriculum Framework Statements (CFS). The standards and frameworks define "what students should know and be able to do" in four core curriculum areas: Language Arts, Mathematics, Science, and Social Studies. All students, including special needs students and those with limited English proficiency, are expected to meet these standards. Teachers are expected to adjust instructional materials to meet the needs of all their students.

Given Chicago's nationally-known focus on educational accountability, there is an increased focus on improving student test scores in all the schoolwide programs throughout the district. Teachers now pay more serious attention to test preparation, particularly in the few weeks prior to the administration of ITBS in the Spring because of the new high-stakes consequences. They use test preparation materials distributed by the district or state, and also attend district-sponsored workshops on test-taking skills. Teachers and students are also tending more often to adopt instructional strategies focused on basic skills, because they believe this will help students do well on their tests.

Tacoma, WA

In 1997, the State of Washington established the "Essential Learnings," a set of content and performance standards. The state set benchmarks in four areas—reading, writing, mathematics and communications—in grades 4, 7, and 10; benchmarks for science, social studies, arts and health and fitness are set at grades 4 and 5 and grades 7 and 8. The Washington Assessment of Student Learning (WASL) is a state test that is aligned with "Essential Learnings."

Despite the state's efforts to publicize the new standards, both school staff and parents appear more focused on the district's policy to end social promotion, rather than school performance on state tests. A majority of teacher responses on our survey supported a strict district-wide policy on promotion, but a number of teachers at the two schools we visited expressed concern that students who fail will not get the assistance they need. Also, principals and district administrators in these two schools expressed concern about the possibility of their students earning low student scores on the Essential Learning Assessments. This concern is well founded, since meeting state performance standards will pose a tremendous challenge for these two schools; they are currently on probation for being low-scoring schools. As of the fall of 1997, the district had not yet announced a plan to address the needs of students who fail to meet district and state standards. In spring of 1997, district Title I administrators reported that the district was considering instituting a summer school requirement for low-scoring students. Principals were still waiting for guidelines from the district about summer school.

The district also sought to reduce the student-to-adult ratio in the classroom, and, in most cases, eliminating "pullouts" for low-income students and special-needs students. Staff at both schools reported using the "in-class" method under the Targeted Assistance School (TAS) model. One example of how this method is used in Tacoma is an ESL aide who provides in-class English instruction in one school, while a learning specialist provided in-class assistance to students with learning disabilities. To address the individual needs of low achieving students, teachers and learning specialists at all

Tacoma schools work together to create Individual Acceleration Plans (IAP). Parents are invited to join teachers in the IAP evaluations, which take place at school three times a year.

Tacoma's central office plays a major role in decision-making about curriculum and grade level benchmarks. In 1995, the district adopted a Houghton Mifflin literacy program to be used districtwide. The program drives literacy instruction at both schools. Those teachers who mentioned the program said they were satisfied with the curriculum and found that it provides consistency in instruction and assessment across different grade levels.

Conclusion

In short, the four districts have developed aspects of what we call an "academic accountability framework." These aspects of accountability include:

- defining academic standards that apply to all schools, including Title I schoolwide programs;
- creating district-wide tests that may be used to determine whether students are promoted;
- raising expectations on the school's capacity to improve performance.

Clearly, district-directed standards are likely to have important implications for inner-city schools with large concentrations of disadvantaged students. But district-initiated pressure is not likely to improve student performance in lower-performing schools if the districts does not provide additional resources and professional support. As urban districts raise the accountability standards, there is clearly a need to maintain an infrastructure of support for schoolwide programs. In light of these concerns, in the next section we will propose ways in which the federal government can more actively engage in creating the necessary systemic conditions to support teaching and learning in schoolwide programs.

Policy Implications and Recommendations: Toward Procedural Accountability

The current education reform climate in the United States stems in part from growing public concern over the general quality of schooling As our review of the 35-year history of Title I suggests, there is increasing attention among policymakers on the need to identify a broad-based range of student performance outcomes and to hold schools accountable for providing effective instruction to all students, particularly those at risk of leaving school unprepared for work and/or further learning. Findings about the implementation of schoolwide programs since IASA was enacted in 1994 suggest that Title I can be a part of national efforts toward systemic improvement. In this section, we explore the broader implications of our findings in the context of the current reauthorization of Title I and whole-school reform efforts.

Based on our analysis of the implementation of Title I over the years, we believe that Congress ought to reauthorize Title I in 1999. At the same time, we propose that the U.S. Congress consider our framework of "procedural accountability." This notion of accountability would enhance the support and assessment functions of the federal government in the implementation of Title I schoolwide programs in high-poverty schools. Such a framework would include several specific components: a federal partnership with urban districts to raise academic standards in high-poverty schools, new efforts to promote systemwide student assessment, and devoting greater attention to increasing the professional capacity of schools. In this concluding section, we will discuss these policy recommendations.

Strengthen the accountability functions of the district

Federal legislative expectations for Title I programs have been expanded to include challenging state/district content and performance standards. States and districts are developing content and performance standards for Title I students, expecting all children to master the same knowledge and skills. The federal government also needs to align Title I program services with the state and district content standards, to ensure schools are held accountable for their Title I students meeting district and state standards. The schoolwide program design offers a built-in organizational mechanism through which the Title I legislative expectations can be linked with schools', districts' and states' ongoing standards-based reform efforts.

System-wide assessment on student outcomes in Title I schools

To create the infrastructure required to sustain the use of schoolwide programs as an improvement strategy, the federal government can encourage districts to improve accountability of Title I schoolwide programs by establishing clear guidance and support for measuring, analyzing, and reporting student performance using a district-wide assessment framework based on the district policy once or twice

a year. Because many intervention strategies in schoolwide programs focus on early literacy, districts should begin collecting student performance information as early as the first grade (both at the beginning and end of the school year).

There is currently some unevenness among districts in the use of standardized tests to measure student progress in Title I schools. Often, districts adopt their own local assessments that fit local reform models. But to fully understand whether the schoolwide program is effective, districts need to be able to compare the performance of students in schoolwide programs to their peers in non-Title I schools in the same district or state.

Further, schools operating schoolwide programs and districts can use the implementation of schoolwide programs and the associated accountability requirements as an opportunity to consider expanding the ways in which evaluation and assessment are used for the entire school. For example, student assessment for Title I accountability purposes can guide instruction and improve the teaching practice of the entire school. Similarly, the use of alternative strategies for assessing student outcomes can be applied schoolwide to increase coordination of programming across units and departments, both within schools and at the district level.

Schoolwide programs also create a context in which the roles of principals and district staff can be reevaluated. Most schools operating schoolwide programs have spent relatively short periods of time planning the programs before implementing them, and have received mixed levels of support from the district level. Further, there is evidence that schoolwide programs have significantly increased professional-development opportunities for teachers to address school-specific implementation needs. Districts might use the transition to a new schoolwide program as a chance to provide professional development that is more targeted to the needs of the school staff, e.g., providing professional development on how to phase out the use pullout programs or how to integrate traditional Title I reading and math curricula with the rest of the school curricula.

Build a knowledge base

District and school professionals need to collaborate on building a knowledge base in order to successfully implement Title I schoolwide programs in varied settings across the district and state. This lack of knowledge has contributed to the lack of implementation of schoolwide programs to date. This is a central research and development task necessary for achieving wide-scale application of comprehensive whole-school reform to achieve the national goal of schooling success for every student (see also Cohen, Hill and Moffitt; and Ross, Alberg and Nunnery, both this volume).

Hold schools accountable for school effects in raising the expectation for schooling success for every student

Educators and policymakers at all levels need to work together to raise the expectations of schoolwide programs for all students in a given school. The federal government can take the lead to call attention to the presence of achievement gaps within individual schools, (for a thorough discussion, see Goertz and Chun, this volume). Federal legislation can encourage districts to design and implement strategic plans that narrow the learning gap between different racial/ethnic and income groups within a schoolwide program. In this regard, further research on Title I implementation and outcomes needs to focus on establishing databases on student performance variation within and across schools at the district/state.

Create incentives for schoolwide programs to select professional development that meets their particular needs

Schoolwide program schools in our national sample recognize and emphasize the importance of professional development, and many teachers discuss positive experiences with this professional development. However, there appears to be a gap in the content matter, opportunity, and/or delivery of professional development which in turn has had an impact on the implementation of schoolwide programs. There is a lack of consistent Title I schoolwide funding to plan and implement the programs. Both school personnel and students suffer from lack of consistency. The quality of teaching must be a central focus of schoolwide improvement. Both federal and district leadership can take a more active role in ensuring stable support for professional development in schoolwide programs.

From a broader perspective, forging stronger links between research and practice is an integral part of comprehensive school reform and will help achieve the ultimate goal of ensuring success for every student. Strategic partnerships between schoolwide programs and R&D organizations (such as universities and Regional Educational Laboratories) should be explored. The opportunity to redefine decision-making roles at the school level can facilitate the creation of more inclusive and efficient

infrastructures that better serve the needs of schools' increasingly diverse student populations. For example, schools can combine expanded teacher input into school decisionmaking with an effort to create professional networks that encourage teachers to initiate and sustain schoolwide program approaches that support and cultivate changes at the classroom level. Similarly, schoolwide programs offer opportunities to explore broader governance issues. For example, alternative approaches to the functions of and relationships among the district, school, and classroom levels can be explored, as well as particular types of parental involvement. These are the kinds of issues that Congress can address during this reauthorization.

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APPENDIX A

RESEARCH DESIGN AND COORDINATION OF DATA COLLECTION

To bridge the critical gap between research and policy, the Laboratory for Student Success at Temple University (LSS), the Mid-Atlantic Regional Educational Laboratory at the Temple University Center for Research in Human Development and Education, initiated a collaborative study on Title I schoolwide programs with four regional laboratories in the summer of 1996. The collaborating labs include Appalachia Educational Laboratory (AEL), North Central Regional Educational Laboratory (NCREL), Northwest Regional Educational Laboratory (NWREL), and Southeastern Regional Vision for Education (SERVE). This research project is based on a program of study initiated at the National Center on Education in the Inner Cities (see Wong et al., 1997). The cross-lab collaboration has two major goals:

1. develop a national database on the implementation and outcomes of Title I schoolwide programs; and
2. provide assistance to schools, districts, and states in an effort to demonstrate and maintain a high degree of implementation of schoolwide programs that are effective in achieving student success in a variety of school settings across different geographic regions.

This study examines several policy questions regarding the effectiveness of Title I schoolwide programs. First, is there a relationship between the 1994 IASA Title I legislative expectations for higher standards and better student performance? Are higher-performing schools more ready to meet these legislative expectations? How do better-performing schoolwide programs differ from their lower-performing peers? Further, what kinds of instructional strategies are used in better-performing schools? Finally, can we develop a procedural knowledge base on "what works" regarding Title I schoolwide programs? Our efforts to address these issues will have broad policy implications on the 1999 reauthorization of Title I as well as on the ongoing discussion on comprehensive school reform.

Legislative expectations form the basis of survey and interview instruments

A major focus of this study is to examine the level of implementation of the legislative expectations for Title I schoolwide programs in the 1994 IASA. These legislative expectations are outlined in a booklet entitled, "An Overview of Title I Schoolwide Programs: Federal Legislative Expectations" (Wong and Meyer 1998), produced by the Laboratory for Student Success. Drawing on the key components of the schoolwide initiative as laid out in earlier drafts of the booklet, staff at the Laboratory for Student Success developed specific means of measuring implementation of various concepts, including schoolwide vision, organizational climate, instructional strategies, and curriculum standards.

To measure the level of Title I legislative expectations as implemented in our study sites, LSS staff created the following scaled indicators[1] in both the teacher and parent survey instruments: student performance goals (13 items); standards/assessment (4 items); student evaluation (5 items); enriched curriculum (6 items); student-centered instruction (5 items); cooperative learning instruction (4 items); professional development (6 items); level and use of resources (8 items); accountability (6 items); and parent involvement (10 items). Further, we measure overall school climate and school governance using scales of the following indicators: teacher/student relationships (4 items), colleague relationships (5 items), shared decision making (3 items), principal leadership (5 items), scope of problems in school (13 items), student activities (4 items), student attitudes (6 items), and parent satisfaction toward schools (7 items). Item details will be included below when we present our findings.

It should be noted that the focus and length of the teacher and parent questionnaires were somewhat different, to reflect respondents' different role and perspectives on the schoolwide program. While parent questionnaires focused on school climate and parent involvement issues, teacher questionnaires included these issues in addition to school governance All the questionnaires included the 5 Likert Scale[2] with "strongly disagree" to "strongly agree" responses. Scales were developed with the basis of both conceptual frameworks and empirical factor analysis. The mean of inter-item reliabilities of the scales was 0.80.

We measured classroom practices using an observation instrument for teachers and students during reading and/or math periods. Our focus was on instructional strategies, instructional settings, types of interactions between students and teachers, and students' on-task behavior. Instructional setting for students is differentiated in terms of students working in the whole class, in a small class, and in a individual setting. Instructional setting for teachers is differentiated by whole class, small class, teacher's desk, student's desk, and traveling. Interaction style for students included categories of no interaction, interaction with teachers, and interaction with others. Interaction style for teachers included categories of no interaction, interaction with instructional purposes, and interaction with managerial purposes for teachers. Percentage of occurrences of each of these categories of interaction during 10 intervals within each class was separately calculated.

The research team also used open-ended questionnaires in their interviews with principals, teachers, and Title I coordinators at the district level. Questions are designed to connect school practices in the context of the systemic agenda set forth in the IASA. The types of questions asked included the following:

1. Resource allocation: How do schools allocate federal, state, and local resources differently as a result of schoolwide programs?
2. Teacher recruitment and professional development: How creative are schools in recruiting teachers? Do they engage in new kinds of professional development?
3. Inclusion practices: Do schools move to eliminate pullout practices? Or do they maintain pull out for different categories of students?
4. Curriculum design: How do schools decide on curricular materials? We transcribed interview and then analyzed them using Nu*dist to determine the relevance of the legislative expectations in school practices. We will present an analysis of our interviews later.

Selection of Schoolwide schools with Varying Performance but Comparable SES characteristics

To develop a comparable pool of better-performing and poorly-performing Title I schoolwide schools, we employed statistical methods that modeled the schools' academic performance, given the composition of their student population, and to what extent it was comprised of at-risk students. We tried to identify schoolwides that varied in student performance but possessed similar socio-economic

characteristics. Our school selection procedures began with each participating laboratory contacting one or more of the school districts within its region for research access. The LSS received detailed information on every elementary and middle school in each school district, from the districts via the lab. LSS used the core database to determine site selection. The database included the school-by-school data on achievement test scores, percent of students qualified for free and reduced price lunch, enrollment, racial characteristics, and level of the schools. It should be noted that districts used different tests and the information they provided varied from 2 to 7 years. More specifically, the following tests were used: Iowa Test of Basic Skills in Atlanta, Chicago, and Denver; California Achievement Test in Cleveland; Michigan Assessment Test in Detroit; Texas Assessment of Basic Skills in Houston; New Jersey Early Warning Test in Trenton; Philadelphia Comprehensive Test of Basic Skills in Philadelphia; and Virginia School Assessment Program in all Virginia's school districts.

Coordination of Data Collection

During the 1997-98 academic year, lab researchers gathered data from 32 schools in 9 urban districts and 3 countywide districts. To identify "what works," we created two samples of schools, using our statistical model of expected academic performance, given their income characteristics. All together, the cross-lab study team collected surveys from 593 teachers, 21 principals, 1,928 students, and 507 parents. Interviews were conducted with 25 principals, 169 teacher, 10 parent focus groups, and 16 Title I district coordinators.

Each participating laboratory was responsible for obtaining permission to conduct research in its selected district(s). Reports and other policy documents on Title I were collected from each participating district. Schools were then selected based on regression analysis of their student achievement and socio-economic characteristics as mentioned above. Each laboratory then made contact with the sample of schools and worked out the site visit schedule. Lab researchers visited the study sites to explain the purpose of the project to the principal and teachers, and to finalize the data collection plan. At each participating school, researchers administered questionnaires to teachers and principals during a faculty meeting, with the exception of a few schools where teachers completed the questionnaires individually and returned them by mail to the researchers or the laboratory. Parent questionnaires were completed at home. Observation for reading and math classes was conducted by trained researchers, using an observation instrument developed by the Laboratory for Student Success at Temple University. One or more researchers from each collaborating laboratory were trained by LSS on how conduct classroom observation, to ensure consistency in the observations. Before researchers conducted their classroom observation, they requested a list of teachers and students from the study sites. Using this information, lab researchers randomly selected six students in each classroom for focused observation in terms of teacher-student interaction. Each observation lasted for about 45 minutes: 5 minutes total for a teacher (10 intervals for 5 seconds each) and 3 minutes for each of the 6 students (10 intervals for 3 seconds each).

In short, this cross-lab collaboration involves many hours of planning and development. Several meetings were held to discuss and revise data collection strategies and instruments. Preliminary analyses were circulated and inputs were provided by participating lab researchers. This study is not only an unprecedented effort on the part of the labs to conduct, it also makes a timely contribution to the national discussion on improving Title I.

NOTES

[1] Each scale is made of relevant items from the questionnaire (the reason why we use indicators rather than individual questions for analysis is that a composite indicator is much more stable and reliable) For example, the student performance goal includes 13 items from the teacher questionnaire. These 13 questions were selected due to the conceptual basis and empirical factor analysis results. Also, Cronbach's alpha (inter-item reliability, a commonly used statistical method) indicates this scale is reliable (.88). Examples of the 13 questions are: "My school has clearly articulated performance goals for all students for reading, math, etc."; "My school places a high priority on learning"; "I demonstrate support of my school's goals for student performance" It is better to use the scale, rather than individual questions, to represent concepts such as student performance goal and accountability.

[2] Each question in the teacher questionnaire includes the 5 Likert scale for the responses: 'strongly disagree', 'disagree', 'uncertain', 'agree', 'strongly agree'. Cronbach's alpha was calculated for each scale to check if each scale included questions that go together (if a scale has low alpha, it means that the scale includes questions that don't belong together and needs to be adjusted). The range of the reliabilities for all the scales is .63 to .88 and the mean is .80.

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GLOSSARY

ADEQUATE YEARLY PROGRESS (AYP) - as specified in the 1994 law, a state-developed accountability provision; a measure of the amount of growth that Title I students should demonstrate. The AYP is to be used as the basis for rewarding Title I schools with the greatest gains, and identifying low-performing schools.

ASSESSMENT – an external measurement of what students know and/or have learned. The 1994 legislation mandates that states must assess Title I students in reading and mathematics.

BENCHMARKS – any common measurement for evaluating students' or schools' growth or absolute level of performance.

NAEP – The National Assessment of Educational Progress, a Congressionally mandated test given to samples of students nationally (public and private schools), to see how much students know in major subject areas.

SCHOOLWIDE PROJECT/PROGRAM – the use of Title I funds to support instructional improvement for all students in a high-poverty school rather than pull-out programs and remediation. Schoolwide projects are either locally developed or externally developed models.

SITE-BASED MANAGEMENT – the devolution of decision-making authority to the school level. Implementation of Title I schoolwide programs generally require a site-based council.

STANDARDS-BASED REFORM – any reform at the state, district, or school level centered around academic standards which specify what students should know and be able to do at a given grade level, and is designed to drive the elements of instruction, assessment, and professional development.

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